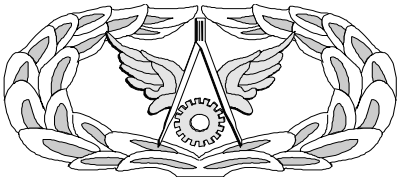
DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington DC 20330-5000

CFETP 3E3X1
Parts I and II
March 2006

AFSC 3E3X1

STRUCTURAL

MASTER



BASIC

SENIOR

CAREER FIELD
EDUCATION AND TRAINING PLAN

STRUCTURAL SPECIALTY
AFSC 3E3X1
CAREER FIELD EDUCATION AND TRAINING PLAN

Table of Contents

PART I

PART II

Supersedes: CFETP 3E3X1, August 2002
OPR: 366 TRS/TRR, Sheppard AFB, TX (Mr. Cheatle)
Approved by: HQ AFCESA/CEOF
Pages:69/Distribution: F

STRUCTURAL SPECIALTY
AFSC 3E3X1
CAREER FIELD EDUCATION AND TRAINING PLAN

Part I

Preface

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements, training support resources, and minimum requirements for this specialty. The CFETP will provide personnel a clear career path to success and instill rigor in all aspects of career field training.

2. The CFETP consists of two parts. Supervisors plan, manage, and control training within the career field using both parts of the plan.

2.1. Part I provides information necessary for overall management of the specialty. **Section A** explains how everyone will use the plan. **Section B** identifies career field progression information, duties and responsibilities, training strategies, and career field path. **Section C** associates each level with specialty qualifications (knowledge, education, experience, training, and other). **Section D** indicates resource constraints. Some examples are funds, manpower, equipment, and facilities. **Section E** identifies transition training guide requirements for SSgt through MSgt.

2.2. Part II includes the following: **Section A** identifies the Specialty Training Standard (STS) and includes duties, tasks, technical references to support training, Air Education and Training Command (AETC) conducted training, wartime course, core task, and correspondence course requirements. **Section B** contains the course objective list and training standards supervisors will use to determine if airmen satisfied training requirements. **Section C** identifies available support materials. Air Force Qualification Training Packages (AFQTPs) and CerTests support both upgrade training (UGT) and qualification training (QT). **Section D** identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses. **Section E** identifies MAJCOM unique training requirements supervisors can use to determine additional training required for the associated qualification needs. **Section F** identifies home station training references and courses material required for this specialty in support of contingency/wartime training.

2.2.1 At unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this guide.

3. Using guidance provided in the CFETP will ensure individuals in this specialty receive effective and efficient training at the appropriate point in their careers. This plan will enable us to train today's work force for tomorrow's jobs.

Abbreviations and Terms Explained

Advanced Distributive Learning (ADL). Anytime, anyplace learning within DoD consisting of instructional modules comprised of sharable content objectives in an Internet/Intranet environment.

Advanced Training (AT). A formal course which provides individuals who are qualified in one or more positions of their Air Force Specialty (AFS) with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

Air Force Career Field Manager (AFCFM). An individual on the Air Staff charged with the responsibility for overseeing all training and career field management aspects of an Air Force specialty or group of specialties.

Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS). A comprehensive task list that describes a particular job type or duty position. Used by supervisors to document task qualifications. The tasks on the AFJQS/CJQS are common to all persons serving in the described duty position.

Air Force Qualification Training Package (AFQTP). An instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. AFQTPs identify the Air Force's standardized method for performing the task. The AFQTP may be printed (paper-based), computer-based, or in other audiovisual media.

Battlefield Airman. Airmen specifically identified as Battlefield Airmen perform tasks to integrate and synchronize air and space operations in the deep or extended battlespace. These airmen routinely fight with joint maneuver and SOF units.

Career Field Education and Training Plan (CFETP). A comprehensive, multipurpose document encapsulating the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

Certification and Testing (CerTest). A multi-media evaluation program used to test an individual's knowledge of principles and procedures in their career field.

Commercial Off The Shelf (COTS). Commercially-procured training products.

Computer-Based Training (CBT). A self-paced stand-alone computer product used to deliver interactive subject and task knowledge.

Continuation Training. Additional training exceeding requirements with emphasis on present and future duty assignments.

Core Task. A task Air Force Career Field Managers (AFCFMs) identified as a minimum qualification requirement within an Air Force specialty or duty position. These tasks exemplify the essence of the career field.

Course Objective List (COL). A publication derived from initial/advanced skills course training standard, identifying the tasks and knowledge requirements, and respective standards provided to achieve a 3-, 5-, and 7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, Developing, Managing, and Conducting Training.

Critical Task. Tasks that have been identified by the work center supervisor as having a detrimental effect on mission accomplishment if not performed correctly. Critical tasks may or may not be the same as core tasks but are mandatory if identified as 'critical' to the individual's position by the supervisor or work center.

Diamond Tasks (♦). Diamond tasks are extremely important to the career field. Diamond tasks are the same as core tasks with one exception--equipment shortfalls at most locations have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP and passing the corresponding CerTest is all that is required for upgrade and qualification training. Hands-on certification should be accomplished at the first opportunity when equipment is available. **(♦) =5-level (♦♦) =7-level**

Distance Learning (DL). Includes Video Teleseminar (VTS), Video Teletraining (VTT), and Computer-Based Training (CBT). Formal courses that a training wing or a contractor develops for export to a field location (in place of resident training) for trainees to complete without the on-site support of the formal school instructor. For instance, courses are offered by Air Force Institute of Technology, Air University, and Training Detachment.

Duty Position Task. The tasks assigned to an individual for the position currently held. These include as a minimum all core tasks, critical tasks, and any other tasks assigned by the supervisor.

Enlisted Specialty Training (EST). A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in each skill level of a specialty.

Exportable Training. Additional training via computer-assisted, paper text, interactive video, or other necessary means to supplement training.

Field Technical Training (Type 4 and Type 7). Special or regular on-site training conducted by a Field Training Detachment (FTD) (Type 4) or by a Mobile Training Team (MTT) (Type 7).

Initial Skills Training. AFS-specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training wings.

Instructional System Development (ISD). A deliberate and orderly, but flexible, process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost-efficient way the knowledge, skills, and attitudes essential for successful job performance.

MAJCOM Functional Manager (MFM). Senior leaders, designated by the appropriate functional authority (FA) who provide day-to-day management and responsibility over specific functional communities at the MAJCOM, FOA, DRU, or ARC level. While they should maintain and institutional focus in regards to resource deployment and distribution, FMs are responsible for ensuring their specialties are equipped, developed, and sustained to meet future needs of the total Air Force mission.

Occupational Survey Report (OSR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFS.

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill-level award) and job qualification (duty position certification) training.

Optimal Training. The ideal combination of training settings resulting in the highest levels of proficiency on specified performance requirements within the minimum time possible.

Proficiency Training. Additional training, either in-residence, exportable advanced training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

Qualification Training (QT). Actual hands-on task performance training designed to qualify an individual in a specific duty position. This portion of the dual channel on-the-job training program occurs both during and after the upgrade training process. It is designed to provide the performance skills required to do the job.

Readiness Training Package (RTP). Establishes standard levels of knowledge and proficiency for common Disaster Preparedness and Readiness subject areas by providing instructors with training references, materials, and lesson objectives used in teaching and evaluating the course subject matter.

Representative Sites. Typical organizational units having similar missions, weapon systems or equipment, or a set of jobs, used as a basis for estimating average training capacities and costs within the Training Impact Decision System (TIDES).

Resource Constraints. Resource deficiencies, such as money, facilities, time, manpower, or equipment that precludes desired training from being delivered.

Skills Training. A formal course resulting in the award of a skill level.

Specialty Training. A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in the award of a skill level.

Specialty Training Standard (STS). Describes skills and knowledge that airmen in a particular AFS need on the job. It further serves as a contract between the Air Education and Training Command (AETC) and the user to show the overall training requirements for an AFS taught in the resident and nonresident courses.

Spin-up Training (SUT). Training required just prior to a select deployment that delivers training necessary for mission accomplishment. It is typically predicated on hard to attain contingency skills.

Standard. An exact value, a physical entity, or an abstract concept, established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results;. a fixed quantity or quality.

Supplemental Training. Training for a portion of an AFS without a change in AFSC. Formal training on new equipment, methods, and technology that are not suited for on-the-job training.

Total Force. All collective Air Force components (active duty, Reserve, Guard, and civilian elements) of the United States Air Force.

Training Capacity. The capability of a training setting to provide training on specified requirements, based on the availability of resources.

Training Planning Team (TPT). Comprised of the same personnel as a U&TW; however, TPTs are more intimately involved in training development and the range of issues is greater than is normal in the U&TW forum.

Training Requirements Analysis. A detailed analysis of tasks for a particular AFS to be included in the training decision process.

Upgrade Training (UGT). Identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 5-, 7-, and 9-skill levels.

Utilization and Training Workshop (U&TW). A forum of the AFCFM, MAJCOM Functional Managers (MFMs), Subject Matter Experts (SMEs), and AETC training personnel that determines career ladder training requirements.

Section A - General Information

4. Purpose. This CFETP provides the information necessary for Air Force Career Field Managers (AFCFM), MAJCOM Functional Managers (MFM), commanders, training managers, supervisors and trainers, to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training that individuals in the AFS should receive in order to develop and progress throughout their career. This plan identifies initial skills, upgrade, qualification, advanced, and proficiency training. **Initial skills training** is the AFS specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training centers. **Upgrade training** identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, 9-skill level. **Qualification training** is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills and knowledge required to do the job. **Advanced Training** is formal specialty training used for selected airmen. **Proficiency training** is additional training, either in-residence or exportable advanced training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes--some are:

4.1. Serves as a management tool to plan, manage, conduct, and evaluate a career field training program. Also, it is used to help supervisors identify training at the appropriate point in an individual's career.

4.2. Identifies task and knowledge training requirements for each skill level in the specialty and recommends education and training throughout each phase of an individual's career.

4.3. Lists training courses available in the specialty, identifies sources of training, and training delivery methods.

4.4. Identifies major resource constraints that impact full implementation of the desired career field training process.

5. Uses. The plan will be used by MFMs and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

5.1. AETC training personnel will develop or revise formal resident, nonresident, field and exportable training based upon requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM, Air Force Civil Engineer Support Agency Force Development Division (HQ AFCESA/CEOF), to develop acquisition strategies for obtaining resources needed to provide the identified training.

5.2. MFMs will ensure their training programs complement the CFETP mandatory initial, upgrade, and proficiency requirements. OJT, resident training, contract training, CerTest, or exportable courses can satisfy identified requirements. MAJCOM-developed training to support this AFS must be identified for inclusion into the plan.

5.3. Unit Education and Training managers and supervisors must ensure each individual completes the mandatory training requirements (including MAJCOM supplemental requirements) for the upgrade training specified in this plan.

5.4. Each individual will complete the mandatory training requirements specified in this plan. The lists of courses in Part II will be used as a reference to support training.

6. Coordination and Approval. The AFCFM is the approval authority for the CFETP. The AFCFM will initiate an annual review of this document to ensure currency and accuracy. MAJCOM representatives and AETC personnel will identify and coordinate on the career field training requirements. Using the list of courses in Part II, they will eliminate duplicate training.

Section B - Career Field Progression and Information

7. Specialty Description.

7.1. Specialty Summary. Manages, constructs, repairs, and modifies structural systems and wooden, masonry, metal, and concrete buildings. Fabricates and repairs components of buildings, utility systems, and real property. Ensures compliance with environmental regulations. Related DoD Occupational Subgroup: 710.

7.2. Duties and Responsibilities for Apprentice, Journeyman, and Craftsman.

7.2.1. Prepares and interprets working drawings and schematics for maintaining, altering, and repairing buildings and structures. Surveys proposed work sites to determine material and labor requirements, prepares cost estimates. Reviews structural work progress and coordinates changes in schedules. Constructs and repairs footings, floors, slabs, foundations, walls, roofs, steps, doors, and windows for prefabricated and permanent structures. Constructs and modifies buildings. Prepares, applies, and finishes mortar, concrete, plaster, and stucco. Fabricates, repairs, and installs metal parts and assemblies for utility systems and buildings.

7.2.2. Erects and lays out trusses and structural steel to specific dimensions. Welds, cuts, brazes, and solders ferrous and nonferrous metals. Inspects, maintains, repairs, and installs overhead, rollup, and mechanical doors and gates. Installs forms and reinforcing material. Applies protective coatings such as primer, stain, and sealant.

7.2.3. Troubleshoots, repairs, and installs commercially manufactured locking devices such as keyed, combination, cipher, panic hardware/exit devices, and pad locks..

7.2.4. Erects and works from scaffolding, ladders and mobile platforms.

7.2.5. Identifies and selects construction materials considering type and applications

7.3. Duties and Responsibilities for Superintendent. Advises on problems associated with the installation and repair of structural systems. Manages, inspects, and evaluates work center activities. Ensures compliance with commercial and military publications. Submits and reviews supply and equipment requisitions. Discusses inspection findings and recommends corrective actions. Solves complex maintenance problems by studying layout drawings, wiring, and schematic drawings, and analyzing construction and operating characteristics. Develops and establishes operation and maintenance procedures to ensure maximum efficiency

8. Skill and Career Progression. Adequate training and timely progression from the apprentice to the superintendent level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training must do his or her part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives viable training at appropriate points in their career.

8.1. Apprentice (3-Level).

8.1.1. Upon completion of initial skills training, a trainee will work with a trainer to enhance their knowledge and skills to progress to the 5-level.

8.1.2. Complete CE Common Core Distance Learning product prior to ordering CDCs.

8.1.3. Utilize the Career Development Course (CDC), Air Force Qualification Training Packages (AFQTPs) and other exportable courses for subject and task fundamentals in the career field. Successfully complete applicable CerTests.

8.1.4. Once trained and task certified, a trainee may perform the task unsupervised.

8.1.. After all upgrade training requirements are completed, supervisors and Unit Education and Training Managers (UETM) coordinate upgrade procedures.

NOTE: All trainees are automatically enrolled in the Community College of the Air Force (CCAF) when awarded their primary AFSC.

8.2. Journeyman (5-Level).

8.2.1. 5-levels may be assigned job positions such as team leader, shift supervisor, and task trainer.

8.2.2. Enter into continuation training to broaden experience base and to advance to the 7-level.

8.2.3. Must complete, as a minimum, fifteen months OJT before award of the 5-level (nine months for re-trainees that were awarded a five level in a previous AFSC).

8.2.4. Attend the Airman Leadership School (ALS) after serving 48 months in the Air Force or selection to rank of SSgt (active duty only). Either the in-residence or correspondence course is required for Air National Guard/Air Force Reserve Command (ANG/AFRC) personnel.

8.2.5. Use CDCs and other reference material to prepare for Weighted Airman Performance Systems (WAPS) testing.

8.2.6. Continue pursuing a Community College of the Air Force (CCAF) degree.

8.2.7. After all upgrade training requirements are completed, supervisors and UETMs coordinate upgrade procedures.

8.3. Craftsman (7-Level).

8.3.1. A craftsman can expect to fill various supervisory and management positions such as shift leader, team chief, supervisor, or task certifier.

8.3.2. Completion of CE Common Core 7-level Distance Learning Course and 100% core/diamond task training is prerequisite to award of the 7-level.

8.3.3. Must complete, as a minimum, twelve months OJT before award of the 7-level (six months for re-trainees that were awarded a seven level in a previous AFSC).

8.3.4. Seven-levels should take continuation training courses or obtain additional knowledge on management of resources and personnel.

8.3.5. Continue academic education through CCAF and higher degree programs is encouraged.

8.3.6. Attend the Noncommissioned Officer Academy (NCOA) after promotion to TSgt (active duty only). Either the in-residence or correspondence course is required for Air National Guard/Air Force Reserve Command (ANG/AFRC) personnel.

8.3.7. After all upgrade training requirements are completed, supervisors and UETMs coordinate upgrade procedures.

8.4. Superintendent. (9-Level)

8.4.1. A 9-level can be expected to fill positions such as flight chief, zone superintendents, and various staff positions.

8.4.2. Must be a SMSgt for award of the 9-skill level.

8.4.3. Completion of Civil Engineer Superintendent Course (AFIT WMGT 570) is prerequisite for award of the 9-level.

8.4.4. Should pursue increased knowledge of budget, manpower, resources, and personnel management.

8.4.5. After completion of CCAF, recommend the pursuit of additional higher education and completion of courses outside of their career AFS.

8.4.6. Will attend the Senior Noncommissioned Officer Academy (SNCOA) after selection for promotion to SMSgt (active duty only). A percentage of top nonselects (for promotion to E-8) MSgts attend SNCOA each year. Either the in-residence or correspondence course is required for Air Force Reserve and Air National Guard (ANG).

8.5. Civil Engineer Manager (CEM).

8.5.1. CEMs work in a variety of similar jobs and functional areas where general managerial and supervisory abilities can be most effectively used and challenged.

8.5.2. Must be selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E191, 3E291, 3E391, 3E490, 3E591, or 3E691)..

8.5.3. Resident graduation of the USAF Senior NCO Academy (SNCOA) is a prerequisite for CMSgt sew-on (active duty only). Either the in-residence or correspondence course is required for Air National Guard/Air Force Reserve Command (ANG/AFRC) personnel.

8.5.4. Completion of the Chief Leadership Course is mandatory.

9. Training Decisions. The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Structural career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and eliminate a disjointed approach to training. The following decisions were made at the career field Utilization & Training Workshop (U&TW) held at Naval Construction Battalion Center (NCBC) Gulfport, MS 18-22 April 2005.

9.1. Initial Skills Training. The initial skill course was reviewed for content. Additions, deletions, and modifications were made to the course. Wartime training tasks were identified and validated.

9.2. Five Level Upgrade Training Requirements. Existing CDCs were reviewed and updated to ensure only current material remained and new technology information was added.

9.3. Seven Level Upgrade Training Requirements. Seven-level training requirements were reviewed and validated.

9.4. Proficiency Training. Any additional knowledge and skill requirements that were not taught through initial skills or upgrade training are assigned as continuation training. The purpose of continuation training is to provide training exceeding minimum upgrade training requirements with emphasis on present and future duty positions. MAJCOMs must develop a continuation-training program that ensures personnel in the Structural career field receive the necessary training at the appropriate point in their careers. The training program will identify both mandatory and optional training requirements.

9.5. Supplemental Training. Subject Matter Experts (SME) and the Training Committee reviewed supplemental training courses for technical accuracy and identified training that was no longer required. They revalidated the remaining courses as necessary to fully support career progression in the AFS.

10. Community College of the Air Force (CCAF) Academic Programs. Enrollment in CCAF occurs when members are awarded their primary AFSC. CCAF provides the opportunity to obtain an Associate in Applied Sciences Degree. In addition to its associates degree program, CCAF offers the following:

10.1. Occupational Instructor Certification. Upon completion of instructor qualification training (consisting of the instructor methods course and supervised practice teaching). The instructor must be a full-time instructor teaching a CCAF course at the time of nomination. Additionally, instructors should: Hold an associate or higher degree from a degree-granting institution that is accredited in accordance with CCAF requirements. Complete a teaching practicum course of at least 5-semester hours credit. Complete an instructor-training course of at least 3 semester hours and have 2 years of experience as a CCAF instructor. Hold the journeyman (5-skill level) or higher (or fully qualified equivalent) in an AFS. Be recommended for certification by the affiliate school commander, commandant, or equivalent designated representative.

10.2. Trade Skill Certification. When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency-based assessment process for trade skill certification at one of four proficiency levels: Apprentice, Journeyman, Craftsman (Supervisor), or Master Craftsman (Manager). All are transcribed on the CCAF transcript.

11. Degree Requirements. Prior to completing a CCAF degree, the individual must be awarded a 5-level and the following requirements must be met: Leadership, management and military studies; physical education; general education; and program elective requirements are identical for all programs. A student needs to hold the journeyman (5) level in the appropriate AFSC at the time of program completion. Attaining the journeyman level is waived for a student in the occupational specialties that do not have journeyman levels. A student must complete all degree requirements before separating, retiring, or becoming a commissioned officer. Degree programs consist of a minimum of 64 semester hours with requirements typically as follows:

Course	**Semester Hours**
Technical Education	24
Leadership, Management, and Military Studies	6
Physical Education	4
General Education	15
Oral Communication	3
Written Communication	3
Mathematics	3
Social Science	3
Humanities	3

Program Elective.....…..... 15
Technical Education; Leadership, Management, and
Military Studies; or General Education

Total.....……..... **64**

11.1. (24 semester hours) A minimum of 12 SHs of technical core subjects or courses must be applied and the remaining semester hours applied from technical core or technical elective subjects or courses. Requests to substitute comparable courses or to exceed specified semester hour values in any subject or course must be approved in advance.

Technical Core Requirements	**Maximum Semester Hours**
Building Construction and Design	20
Carpentry/Cabinetry	12
CCAF Internship	18
College Algebra/Trigonometry	3
Computer Aided Drafting	3
Construction Inspection/Building Codes	9
Drafting/Engineering Drawing	3
Engineering Assistant	20
Heavy Equipment Operations	20
Metals Fabrication/Characteristics	15
Metals Fabrication	14
Pavement Construction	12
Project Management/Planning	3
Surveying	9
Welding	9

Technical Electives	**Maximum Semester Hours**
Blueprint Reading	3
Computer Science	6
Construction Material Estimating	3
Enlisted Professional Military Education	6
General Physics	3
Hazardous Materials	3
Industrial/Construction Safety	3
Properties and Strength of Materials	6
Soil and Foundations	3
Technical Writing	3

11.2. Leadership, Management, and Military Studies (6 Semester Hours): Professional military education, civilian management courses accepted in transfer and/or by testing credit.

11.3. Physical Education (4 Semester Hours): This requirement is satisfied by completion of Basic Military Training.

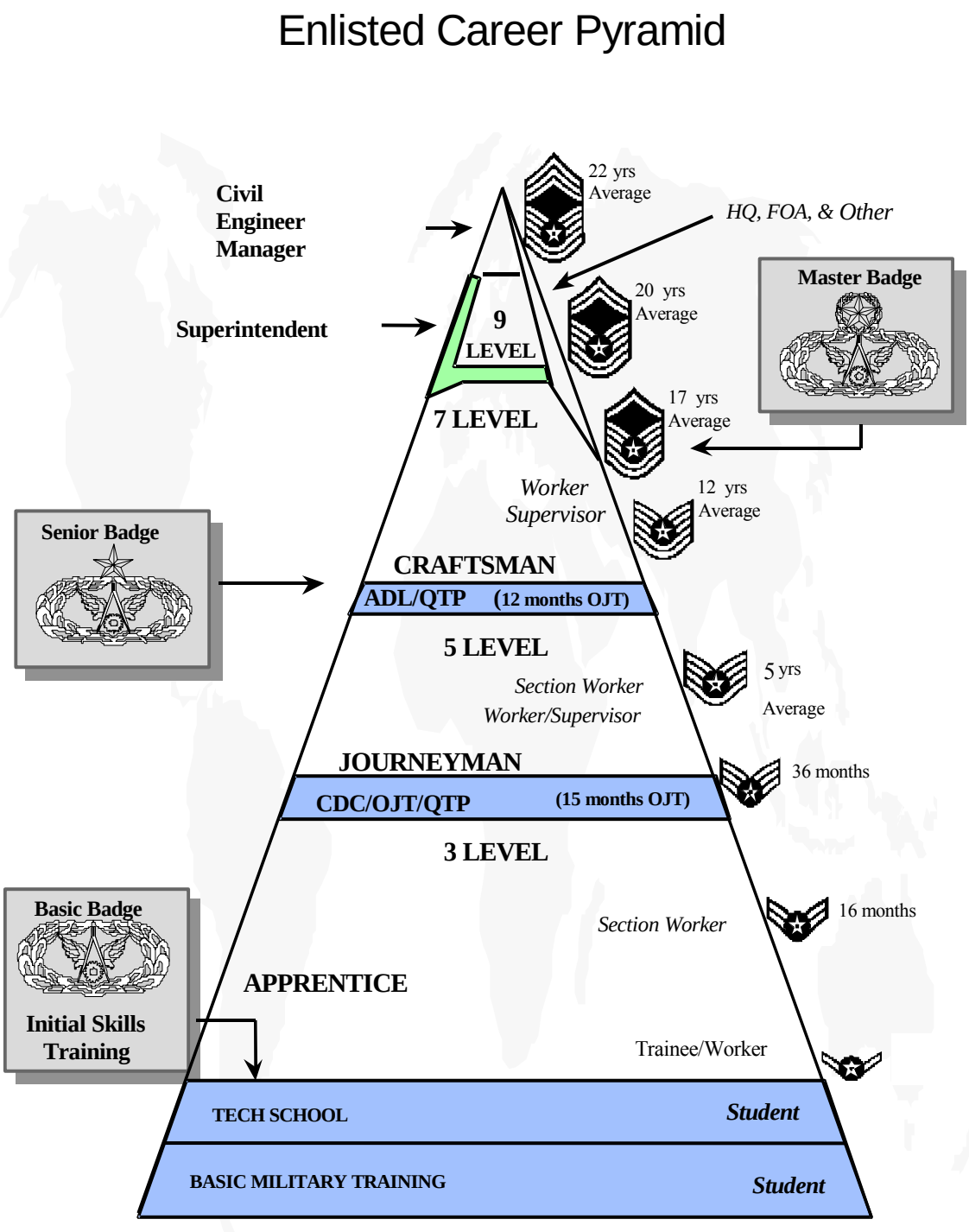
11.4. General Education (15 Semester Hours): Applicable courses must meet the criteria for application of courses to the general education requirements and be in agreement with the definitions of applicable general education subjects/courses as provided in the *CCAF General Catalog*.

General Education Subjects/Courses	**Semester Hours**
Oral Communication Speech	3
Written Communication English Composition	3
Mathematics Intermediate algebra or a college-level mathematics course satisfying delivering institution's mathematics graduation requirement-if an acceptable mathematics course applies as technical or program elective, you may substitute a natural science course for mathematics.	3
Social Science Anthropology, archaeology, economics, geography, government, history, political science, psychology, and sociology	3
Humanities Fine arts (criticism, appreciation, historical significance), foreign language, literature, philosophy, and religion.	3

11.5. Program Elective (15 semester hours) Courses applying to technical education, LMMS or general education requirements; natural science courses meeting general education requirement application criteria; foreign language credit earned at Defense Language Institute or through Defense Language Proficiency Test; maximum 6 SHs of CCAF degree-applicable technical course credit otherwise not applicable to program of enrollment..

11.6. Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an AETC Instructor should be actively pursuing an associate degree. A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

12. Career Field Path. The following chart depicts this specialty's career path.



12.1 Enlisted Career Path				
Education and Training Requirements	**GRADE REQUIREMENTS**			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
Basic Military Training school				
Apprentice Technical School (3-Skill Level)	Amn A1C	6 months 16 months		
Upgrade To Journeyman (5-Skill Level) - Minimum 15 months on-the-job training. (9 months for retrainees) - Complete 5-level CDC - Complete all core and duty related tasks identified in CFETP	SrA	3 years	28 months (22 Months BTZ)	12 years
Airman Leadership School - Must be a SrA with 48 months time in service or be a SSgt selectee. - Resident graduation is a prerequisite for SSgt sew-on (Active Duty Only).	**<u>Trainer</u>** - Must be qualified and certified to the perform tasks to be trained. - Must attend formal OJT Trainer Training and be appointed by Commander.			
Upgrade To Craftsman (7-Skill Level) - Minimum rank of SSgt. - 12 months OJT. - 6 months OJT for retrainees - Complete 7-level ADL. - Complete all core and duty related tasks identified in CFETP	SSgt	5 years	3 years	20 years
	<u>Certifier</u> - SSgt with 5-skill level or civilian equivalent. - Attend formal OJT Certifier Course and appointed by Commander. - Be a person other than the trainer (for core and critical tasks only).			
Noncommissioned Officer Academy - Must be a TSgt or TSgt selectee. - Resident graduation is a prerequisite for MSgt sew-on (Active Duty Only).	TSgt MSgt	12 years 17 years	5 years 8 years	24 years 26 years
USAF Senior NCO Academy - Must be a SMSgt, SMSgt selectee, or selected MSgt - Resident graduation is a prerequisite for CMSgt sew-on (Active Duty Only) **Upgrade To Superintendent** (9-Skill Level) - Minimum rank of SMSgt. - Complete AFIT WMGT 570, Civil Engineer Superintendent Course.	SMSgt	20 years	11 years	28 years
Civil Engineer Manager (CEM) - Completion of Chief Leadership course is Mandatory -USAF Senior NCO Academy (SNCOA) resident graduation is a prerequisite for CMSgt sew-on (Active Duty Only)	CMSgt	22 years	14 years	30 years

12.2. CE Occupational Badge. The Civil Engineer badge reflects a great history and tradition. By wearing it, you will be recognized by your fellow airmen as having achieved an expected level of competence. The multitude of engineers before you established this expectation through excellent service in both peace and war. Eligibility criteria for award and wear of AF occupational badges can be found in AFI 36-2923 *Aeronautical, Duty, and Occupational Badges*.

12.2.1. CE Badge Heraldry. The gear wheel and compass have historically been used to represent the engineering profession, in both the military and civilian sector. The gear represents the essence of engineering: applying scientific principles and technology to practical ends. To Air Force engineers, the gear symbolizes an element (representing the built environment) that meshes with other environments (weapon systems and trained personnel) to enable the Air Force to perform its mission. The compass is a precision tool historically used by engineers in designing and constructing facilities and equipment. The gear and compass together symbolize all the diverse specialties within Air Force civil engineer. Finally, the wings help to portray the fundamental linkage between the engineering and aviation components; and that the built environment is the foundation supporting Air Force mission and people.

12.2.2. Basic Badge. The basic badge is awarded upon successful completion of the apprentice course.

12.2.3. Senior Badge. The senior badge adds a star to the top of the badge. Wear the senior badge after award of the 7-skill level.

12.2.4. Master Badge. The master badge adds a wreath around the star. The Master Badge is awarded to master sergeant or above with 5 years in the specialty from award of the 7-skill level.

Section C - Skill Level Training Requirements

13. Purpose. Skill level training requirements in this specialty are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for each skill level in broad, general terms and establishes the mandatory requirements for entry, award, and retention of each skill level. The specific task and knowledge training requirements are identified in the STS at Part II, Section A and B, of this CFETP.

14. Specialty Qualification.

14.1. Apprentice (3-Level) Training Requirements.

14.1.1. Specialty Qualification.

14.1.1.1. Knowledge. Completion of the Apprentice course satisfies this mandatory requirement.

14.1.1.2. Education. Completion of high school or General Education Development (GED) is mandatory for entry into this AFS. Courses in science, shop mechanics, and use of drawings are desirable.

14.1.1.3. Training. Completion of the Structural Apprentice courses J9AQN3E331 00NA, J9AQN3E331 01NA and JCABP3E331 00AA is mandatory for award of this skill level.

14.1.1.4. Experience. N/A

14.1.1.5. Other.

14.1.1.5.1. Qualification to operate government vehicles according to AFMAN 24-301, Vehicle Operations.

14.1.1.5.2. Freedom from fear of height.

14.1.1.5.3 See **AFMAN 36-2108 Attachment 39** for additional entry requirements.

14.1.2. Training Sources and Resources.

14.1.2.1. Formal training is accomplished through courses J9AQN3E331 00NA, J9AQN3E331 01NA and JCABP3E331 00AA at Naval Construction Battalion Center (NCBC) Gulfport, MS.

.

14.1.2.2. The Course Objective List (COL) (Part II, Section B of this CFETP) identifies all the knowledge and tasks, with their respective standards.

14.1.2.3. When available, AFQTPs and applicable CerTests are mandatory for use during UGT/QT on all core tasks, critical tasks, and diamond (♦) tasks.

14.1.3. Implementation.

14.1.3.1. The 3-skill level is awarded upon graduating the Apprentice course, completion of CE common core distance learning product, and submission by the Unit Training Manager at member's first unit of assignment.

14.2. Journeyman (5-Level) Training Requirements.

14.2.1. Specialty Qualification. Entry into 5-level upgrade training is initiated after the individual has completed the 3-level school. All 3-level qualifications apply to 5-level requirements

14.2.1.1. Knowledge. Knowledge of the following is mandatory: Building maintenance, repair, and construction, including roofing, Nomenclature of woodworking materials and methods of material storage, Theory of squaring by equivalent measurements, Application of shop mathematics. Theory of wood treatment. i.e.: Laminating, gluing, and protective coating procedures, Type and specification requirements of masonry and concrete materials, Batching formulas, Methods of curing concrete, mortar, plaster, stucco, tile, and lime mixtures, Types of coating preservatives and applications, Compatible products to be combined in composite systems, Methods of preparing various surfaces for finishing, Locking devices, Composition, characteristics, and identification of common commercial grade metals, Construction grade metal requirements, Types and uses of metal hardware, Methods of forming and cutting metals, Metal fabrication and repair, Welding processes, Metal layout, Shop drawings, Metal measurement and layout, Cutting equipment, Gas and arc welding equipment, Safety procedures and practices, Environmental concerns and safety precautions required in using, storing, and disposing of hazardous materials, and Contingency requirements

14.2.1.2. Education. N/A

14.2.1.3. Training. The following training is mandatory for award of the 5-skill level:

14.2.1.3.1. Completion of 5-skill level CDCs.

14.2.1.3.2. Certification of all 5-level core tasks identified with a single asterisk (*) in the 5-level core task column of the STS.

14.2.1.3.3. Completion of AFQTPs for assigned core tasks and contingency war diamond (♦) tasks.

14.2.1.3.4. Completion of CerTests for all contingency war diamond (♦) tasks with a minimum of 80%.

14.2.1.3.5. Certification of duty position requirements identified by the supervisor.

14.2.1.3.6. The following training is desirable and strongly encouraged:

14.2.1.3.6.1. Completion of the Roof Installation, Maintenance, Inspection, and Repair (JCAZP3E351 01AA) course.

14.2.1.3.6.2. Completion of Metals Layout, Fabrication and Welding (JCAZP3E351 02AA) course.

14.2.1.3.6.3. Completion of BEAR Base Structures Erection Course (J7AZT3E351 00AA) course.

14.2.1.4. Experience.

14.2.1.4.1. Qualification in and possession of 3-skill level.

14.2.1.4.2. Constructing, erecting, maintaining, and repairing buildings and heavy structures.

14.2.1.4.3. Erecting prefabricated structures.

14.2.1.4.4. General carpentry.

14.2.1.4.5. Laying masonry units.

14.2.1.4.6. Mixing, applying, and finishing concrete, plaster, stucco, and mortar.

14.2.1.4.7. Use of protective equipment.

14.2.1.4.8 Fabricating, installing, and repairing metal components using gas or arc welding equipment.

14.2.1.4.9. Minimum 15 months on-the-job training (9 months for re-trainees) before award of 5-skill level.

14.2.1.5. Other. N/A

14.2.2. Training Sources and Resources.

14.2.2.1. CDC 3E351 A, B, and C, Structural Journeyman.

14.2.2.2. The STS (Part II, Section A of the CFETP) identifies all core tasks required for qualification in the individual's duty position.

14.2.2.3. Qualified trainers provide upgrade and qualification training for duty positions, managed programs, and/or equipment to be used.

14.2.3. Implementation. Entry into 5-level upgrade training is initiated after the individual has completed all 3-level requirements and assigned to their first duty station. Qualification training is initiated any time individuals are assigned duties they are not certified to perform. AFQTPs are used concurrently to obtain necessary duty position qualifications.

14.3. Craftsman (7-Level) Training Requirements.

14.3.1. Specialty Qualification.

14.3.1.1. Knowledge. Knowledge is mandatory of: Use and capacity of construction equipment, Specifications and characteristics of reinforcing materials, Properties of wood and wood products, Apply protective coatings

14.3.1.2. Education.

14.3.1.2.1. Completion of the CE 7-level Common Core Distance Learning Module is mandatory.

14.3.1.2.2. To assume the grade of SSgt, individuals must successfully complete Airman Leadership School (active duty only).

14.3.1.2.2. To assume the grade of MSgt, individuals must successfully complete the NCO Academy (active duty only).

14.3.1.2.3. For ANG/AFRC, completion of Air Force Institute for Advanced Distributive Learning (AFIADL) courses 00001 (ALS) and 00006 D&E (NCO Academy) satisfy the requirements.

14.3.1.3. Training. The following training is mandatory for award of the 7-skill level:

14.3.1.3.1. Certification of all 5 and 7-skill level core tasks identified with a single asterisk (*) in the 5-level core task column and double asterisk (**) in the 7-level core task column of the STS.

14.3.1.3.2. Completion of all AFQTPs for assigned core and contingency war diamond (♦) tasks

14.3.1.3.3. Completion of CerTests for all diamond (♦) tasks with a minimum of 80%.

14.3.1.3.4. Certification of duty position requirements identified by the supervisor.

14.3.1.3.5. The following training is desirable and strongly encouraged

14.3.1.3.5.1 Completion of Roof Installation, Maintenance, Inspection and Repair JCAZP3E351 01AA, instructed at NCBC Gulfport MS is desirable.

14.3.1.3.5.2 Completion of Metals Layout, Fabrication and Welding course JCAZP3E351 02AA instructed at NCTC Gulfport MS is desirable.

14.3.1.3.5.3. Completion of Structural Contingency Course JCAZP3E351 03AA instructed at Holloman AFB NM is desirable.

14.3.1.3.5.4. Completion of BEAR Base Structures Erection course J7AZT3E351 00AA, instructed by Mobile Training Team (MTT) is optional.

14.3.1.3.5.5 Completion of Structures Contingency Training Course ECS-TCC 3E3X1, instructed at the Training and Certification Center, Dobbins AFB, GA. is optional.

14.3.1.4. Experience.

14.3.1.4.1. Qualification in and possession of a 5-level

14.3.1.4.2. Must be SSgt with minimum 12 months on-the-job training (6 months for re-trainees).

14.3.1.4.3. Planning of masonry and carpentry.

11.3.1.4.4. Planning prefabricated structures.

11.3.1.4.5. Plan installation, fabrication, repairs, welding, or forging of metal components.

11.3.1.4.6. Plan construction, erection, maintenance and repair of buildings and heavy structural projects.

14.3.1.5. Other. N/A

14.3.2. Training Sources and Resources.

14.3.2.1. NCO Academy Course 00006 D&E (paper-based correspondence).

14.3.2.2 Course Roof Installation, Maintenance, Inspection and Repair JCAZP3E351 01AA, instructed at NCBC Gulfport MS.

14.3.2.3 Course Metals Layout, Fabrication, and Welding JCAZP3E351 02AA, instructed at NCBC Gulfport MS.

14.3.2.4 Course BEAR Base Structures Erection J7AZT3E351 00AA (MTT course) instructed out of NCBC Gulfport MS.

14.3.2.5 Course Structural Contingency Course JCAZP3E351 03AA instructed at Holloman AFB NM

14.3.2.6 Completion of Structures Contingency Training Course ECS-TCC 3E3X1, instructed at the Training and Certification Center, Dobbins AFB, GA.

14.3.2.7 Qualified trainers provide upgrade and qualification training for duty positions, managed programs, and/or equipment to be used.

14.3.3. Implementation. Entry into 7-level training is initiated when an individual is selected for SSgt and has fulfilled all 5-level requirements. Qualification training is initiated any time an individual is assigned duties that they are not certified to perform. AFQTPs are used concurrently to obtain necessary duty position qualifications.

14.4. Superintendent (9-Level) Training Requirements.

14.4.1. Specialty Qualification.

14.4.1.1. Knowledge. Knowledge is mandatory of Air Force training programs. CE policies, practices, and procedures of base maintenance and operations, crafts, facilities, equipment, and systems. Interpretations

and applications of maintenance and work force management. General structural construction, and repair methods and procedures, including use and capacity of construction equipment .

14.4.1.2. Education.

14.4.1.2.1. ANG/AFRC must complete AFIADL course 00012 (computer base CD-ROM) or in-residence Senior NCO Academy course prior to award of the 9-skill level.

14.4.1.2.2. Completion of AFIT WMGT 570 Civil Engineer Superintendent course is mandatory prior to award of 9-skill level.

14.4.1.3. Training. Completion of duty position training requirements is mandatory

14.4.1.4. Experience.

14.4.1.4.1. Qualification in and possession of 7-skill level is mandatory.

14.4.1.4.2. Minimum rank of SMSgt with experience directing functions such as erecting structures or building maintenance.

14.4.1.5. Other. N/A

14.4.2. Training Sources and Resources.

14.4.2.1. In-residence Senior NCO Academy located at Maxwell AFB - Gunter Annex AL.

14.4.2.2. Senior NCO Academy Course 00012 (exportable computer based CD-ROM).

14.4.2.3. Civil Engineer Superintendent Course, WMGT 570, conducted at Air Force Institute of Technology, Wright-Patterson AFB, OH.

14.4.3. Implementation.

14.4.3.1. Entry into 9-level training is initiated when an individual is selected for SMSgt and is a fully qualified 7-Level. Qualification training is initiated any time an individual is assigned duties they are not certified to perform.

14.5. Civil Engineer Manager.

14.5.1. Specialty Qualification.

14.5.1.1. Knowledge. Knowledge is mandatory of managing and directing personnel resource activities. Interpreting and enforcing policy and applicable directives. Establishing control procedures to meet work goals and standards. Recommending or initiating actions to improve operational efficiency. Planning and programming work commitments and schedules. Developing plans regarding facilities, supplies, and equipment procurement and maintenance.

14.5.1.2. Education. Must be a resident graduate of Senior NCO Academy (active duty only). Completion of the Chief Leadership Course is mandatory.

14.5.1.3. Training. N/A

14.5.1.4. Experience. Possess qualifications in feeder specialty (3E391) prior to award of Civil Engineer Manger code 3E000. Managerial ability to plan, direct, coordinate, implement, and control a wide range of work activity.

14.5.1.5. Other. N/A

14.5.2. Training Sources and Resources. Chief Leadership Course conducted at Maxwell AFB - Gunter Annex AL.

14.5.3. Implementation. Entry into Civil Engineer Manager code 3E000 is initiated when an individual is selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E191, 3E291, 3E391, 3E490, 3E591, and 3E691).

Section D - Resource Constraints

15. Purpose. This section identifies known resource constraints, which preclude optimal and desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, office of primary responsibility, and target completion dates. Resource constraints will be, as a minimum, reviewed and updated annually.

15.1. Constraints:

15.1.1. Equipment Constraints. None

15.1.2. Time/Manpower/Student Man-years Constraints: None.

16. Apprentice (3-Level) Training:

16.1. Constraints. None

16.1.1. Impact. None

16.1.1. Resources Required. None

16.1.1. Action Required. None

16.2. OPR/Target Completion Date. 366 TRS/TRR will implement revised training requirements with class beginning 24 Jan 2006.

17. Journeyman Level Training. AFQTP development for all core tasks.

17.1. Constraints. None

17.1.1. Impact. Required training will be available upon implementation of this CFETP.

17.1.1. Resources Required. None

17.1.1. Action Required. None

18. Craftsman (7-Level) Training. None

18.1. Constraints. None

18.1.1. Impact. Required training will be available upon implementation of this CFETP.

18.1.1. Resources Required. None

18.1.1. Action Required. None

19. Superintendent (9-Level Training. None.

Section E – Transitional Training Guide

20. There are currently no transition training requirements. This area is reserved.

Part II

Section A - Specialty Training Standard

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level Structural Apprentice course with class beginning 24 Jan 06 and graduating 23 Mar 06.

2. Purpose. As prescribed in AFI 36-2201, this STS:

2.1. Lists in Column 1 (*Tasks, Knowledge, and Technical References*) the most common tasks, knowledge, and Technical References (TR) necessary for airmen to perform duties in the 3-, 5-, and 7-skill level.

2.2. Column 2 (*Core Tasks*) identifies core tasks (specialty-wide training requirements) by an asterisk (*) in the 5-skill level column or a double asterisk (**) in the 7-skill level column. **As a minimum, trainees must complete hands-on certification on all core and critical tasks for skill-level upgrade.**

2.2.1. All tasks in the 3-level course column are considered wartime tasks. In response to a wartime scenario, these tasks will be taught in the 3-level course in a streamlined training environment.

2.2.2. Tasks identified by a diamond (♦) for 5- and 7- skill levels or a double diamond (♦♦) for 7-skill level only in column 2 are extremely important to the career field. Equipment shortfalls at most locations however, have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP and passing the corresponding CerTest is all that is required for upgrade and qualification training.

2.3. Provides **certification for OJT**. Columns 3A, B, C, D, and E are used to record completion of task and knowledge training requirements. **Task certification** of core and critical tasks requires a training completion date and initials of the trainee, trainer, and certifier. All non-core tasks require training completion date and initials of the trainee and trainer only.

2.4. Shows **formal training and correspondence course** requirements. Columns 4A, B, and C show the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the initial skills training course, correspondence course, and computer-based training. See CADRE/AFSC/CDC listing maintained by the unit education and training manager for current CDC listings.

2.5. Qualitative Requirements. Attachment 1 contains the Proficiency Code Key used to indicate the level of training and knowledge provided by resident training and career development courses.

2.6. Becomes a **Job Qualification Standard (JQS)** for on-the-job training when placed in AF Form 623, Individual Training Record, and used according to AFI 36-2201. For OJT, the tasks in Column 1 are trained and qualified to the go/no go level. Go means the individual can perform the task without assistance and meets local requirements for accuracy, timeliness, and correct use of procedures. AFQTPs, when available, shall be used to identify Air Force standardized procedures. When used as a JQS, the following requirements apply:

2.6.1. Documentation. Document and certify completion of training.

2.6.1.1. Identify **current duty position requirements** by circling the subparagraph number or letter next to the task statement. **Additionally, all core (*) and diamond (♦) tasks should be circled.** Document task completion by annotating columns 3A, 3B, 3C, 3D and 3E, as appropriate.

NOTE: All entries shall be made in pencil, if applicable.

2.6.1.2. Enter the start date of the AFQTP on the AFQTP documentation record. Once completed enter the completion date. When **hands-on** training is started and completed annotate the STS accordingly.

2.6.1.3. Transcribing from old document (paper or automated) to CFETP. Use the new STS to identify and certify all current and past task qualifications.

2.6.1.3.1. For **tasks previously certified and still required in the current duty position:**

2.6.1.3.1.1. For **core and critical tasks,** the trainer and certifier evaluate airman's current qualifications and validates airman's ability to complete the task. The new certified date is entered in column 3B and the trainee and certifier enter their initials in columns 3C and 3E, respectively.

2.6.1.3.1.2. For non-core duty position tasks, the trainer evaluates the airman's current qualifications and validates the airman's ability to complete the task. The current date is entered in column 3B and the trainee and trainer enter their initials in columns 3C and 3D, respectively.

2.6.1.3.2. To transcribe previous certification for tasks not required in the current duty position, carry forward only the previous completion dates (not the initials of another person). If and when these tasks become a duty position requirement, recertify with current date and trainee, trainer and certifier's initials.

2.6.1.3.3. Annotate the AF Form 623a , (for example, "I certify the information contained in the CFETP dated XX was transcribed to the CFETP dated XX, and the trainee was given the superseded CFETP." Signed and dated by the supervisor and trainee).

2.6.1.4. Documenting Career Knowledge. When a CDC is not available, the supervisor identifies STS training references that the trainee requires for career knowledge IAW AFI 36-2201 Vol 3 and ensures, as a minimum, that trainees cover all mandatory items specified in AFMAN 36-2108, Enlisted Classification. For two-time CDC exam failures, the unit commander will take appropriate action IAW AFI 36-2201 Vol 3**. NOTE:** Career knowledge must be documented prior to submitting a CDC waiver.

2.6.1.5. Decertification and Recertification. When an airman is found to be unqualified on a task, the supervisor shall erase previous certification and enter airman into qualification training. Appropriate remarks are entered on the AF Form 623a, On-The-Job Training Record Continuation Sheet, as to the reason for decertification. The individual is recertified using the normal certification process.

2.7. The STS is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKTs) are developed at the USAF Occupational Measurement Squadron by senior NCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the WAPS catalog. Individual responsibilities are in chapter 14 of AFI 36-2606, *United States Air Force Reenlistment, Retention, and NCO Status Programs*. WAPS is not applicable to the Air National Guard or Air Reserve Forces.

3. Recommendations. Comments and recommendations are invited concerning the quality of training AETC graduates receive. Reference specific STS paragraphs and address correspondence regarding changes to 782 TRG/TGAV, 620 9th Avenue, Suite 3, Sheppard AFB TX 76311-2268. A customer service information line has been installed for the supervisor's convenience to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For a quick response to problems, call our customer service information line at DSN: 736-2574 or e-mail csil@sheppard.af.mil anytime day or night.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

L. DEAN FOX, Major General, USAF
The Civil Engineer
DCS/Installations and Logistics

4 Attachments
1. Qualitative Requirements
2. 3-, 5-, and 7-level career field training requirements
3. AFQTP Documentation record

This Block Is For Identification Purposes Only		
Name Of Trainee		
Printed Name (*Last, First, Middle Initial*)	**Initials (Written*)***	**SSAN**
Printed Name Of Certifying Official And Written Initials		
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	

QUALITATIVE REQUIREMENTS

Proficiency Code Key		
	Scale Value	**Definition: The individual**
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely Limited)
	2	Can do most parts of the task. Needs only help on hardest parts. (Partially Proficient)
	3	Can do all parts of the task. Needs only a spot check of completed work. (Competent)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (Highly Proficient)
*Task Knowledge Levels	a	Can name parts, tools, and simple facts about the task. (Nomenclature)
	b	Can determine step by step procedures for doing the task. (Procedures)
	c	Can identify why and when the task must be done and why each step is needed. (Operating Principles)
	d	Can predict, isolate, and resolve problems about the task. (Advanced Theory)
**Subject Knowledge Levels	A	Can identify basic facts and terms about the subject. (Facts)
	B	Can identify relationship of basic facts and state general principles about the subject. (Principles)
	C	Can analyze facts and principles and draw conclusions about the subject. (Analysis)
	D	Can evaluate conditions and make proper decisions about the subject. (Evaluation)

Explanations

* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Example: b and 1b)

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.

- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.

X This mark is used alone in the course columns to show that training is required but not given due to limitations in resources.

NOTE: All tasks and knowledge items shown with a proficiency code are trained during war time.

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
1. CE ORGANIZATION AND CAREER FIELD STRUCTURE TR: AFDD 2-4; AFIs 10-209, 10-210, 10-211, 32-1001, 32-1022, 36-2101, 38-101; AFMAN 36-2108; War Mobilization Plan (WMP)-1, Annex S														
1.1 Civil Engineer (CE) structure										A		B		
1.2 Progression in career ladder										A		B		
1.3 Duties and responsibilities														
1.3.1 Peacetime										A		B		
1.3.2 Contingency										A		B		
1.4 Functions of:														
1.4.1 Base Civil Engineer (BCE)										A		B		
1.4.2 Prime BEEF										A		B		
1.4.3 RED HORSE										A		B		
1.4.4 HQ Air National Guard (ANG) Air Force Reserve Command (AFRC)										A		B		
1.4.5 HQ Air Force Civil Engineer Support Agency (AFCESA)												A		B
1.4.6 HQ Air Force Center For Environmental Excellence (AFCEE)														A
1.4.7 Air Force Institute of Technology (AFIT)														A
1.4.8 Air Force Research Laboratory (AFRL)														A
1.5 Resources														
1.5.1 Assess manpower requirements														b
1.5.2 Identify budget requirements														b
1.5.3 Determine equipment requirements														b
1.5.4 Use Allowance Standards (AS)														b
1.5.5 Research, Development, and Acquisition (RD&A) TR: DoDD 5000.1														
1.5.5.1 Process														B
1.5.5.2 Unit responsibilities														B
1.5.5.3 Major command responsibilities														B
1.5.6 Assess vehicle requirements														b
1.5.7 Requesting contract services														b
1.5.8 Requesting Simplified Acquistion of Base Engineering Requirements (SABER) contract														B
1.5.9 Geo Base technologies												B		B
1.5.10 Quality Assurance Personnel (QAP) duties TR: Federal Acquisition Regulation Part 37.6; AFI 63-124; AFPAM 32-1004 Vol 2														

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
1.5.10.1 Evaluate contractor's performance														
1.5.10.2 Document contractor's performance														
1.5.10.3 Maintain surveillance documents														
2 Supervision TR: AFIs 36-2201, 36-2406, 36-3401; AFMAN 36-2108														
2.1 Orient new personnel														b
2.2 Assign personnel to work crew														b
2.3 Coordinate work assignments														b
2.4 Schedule work assignments and priorities														b
2.5 Establish:														
2.5.1 Work methods														b
2.5.2 Controls														b
2.5.3 Performance standards														b
2.6 Evaluate work performance of subordinate personnel														b
2.7 Resolve technical problems for subordinate personnel														b
2.8 Direct projects														b
3 Training TR: AFIs 36-2101, 36-2201; AFPD 36-22; AFMAN 36-2108														
3.1 Evaluate personnel to determine need for training												a		b
3.2 Enlisted specialty training supervision														
3.2.1 Prepare job qualification standards												a		b
3.2.2 Conduct training												a		b
3.2.3 Counsel trainees on their progress												a		b
3.2.4 Monitor training effectiveness of:														
3.2.4.1 Career knowledge												a		b
3.2.4.2 Job proficiency upgrade												a		b
3.2.4.3 Qualification												a		b
3.3 Maintain training records												a		b
3.4 Evaluate training programs effectiveness												a		b
3.5 Recommend people for training												a		b
3.6 AETC training management system (Training Allocation)												A		B
3.7 Managing Certification and Testing (CerTest)												A		B
3.8 National/DoD Certification requirements												A		B
3.9 Air Force Qualification Training Package (AFQTP) Requirements												A		B

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
4 Environmental Awareness and Compliance TR: AFPD 32-70; AFI 32-7045; EO 12856														
4.1 Environmental compliance (ECAMP)												A		B
4.2 Environmental Protection Agency (EPA)												A		B
5 CE Management TR: AFI 32-1001, 32-1022; AFPAM 32-1098, 32-1125 Vol 1; AFMAN 23-110														
5.1 Customer relationships										A		B		
5.2 Work identification and authorization												A		B
5.3 Plan work requirements												A		b
5.4 Plan logistics support (CEMAS, BOM)												A		b
5.5 Government Purchase Card (GPC) Program												A		B
5.6 Maintain Recurring Work Program (RWP)												A		b
5.7 Scheduling/time accounting												A		b
5.8 Warranty and Guarantee Program												A		B
5.9 Property accountability												A		B
5.10 Air Force Comprehensive Plan												A		B
5.11 Legal limits												A		B
5.12 Mark "As Built" drawings												A		b
5.13 Reimbursements procedures												A		B
5.14 CE Specific Automated Systems (Computer) Capability														
5.14.1 Perform inputs												a		b
5.14.2 Maintain files												a		b
5.14.3 Develop automated reports												a		b
5.14.4 Extract automated reports												a		b
5.14.5 Perform automated data analysis														b
5.15 Host Tenant and Interservice Agreements														A
5.16 Civil Engineer Civilian Management														B
6 AF Occupational Safety and Health (AFOSH) Program TR: AFIs 91-301, 91-302; AFOSH STD 91-501														
6.1 Supervisory responsibilities												B		
6.2 Hazardous materials waste handling									A			B		
6.3 Lead-based paint (LBP) hazard TR: 29 CFR 1926.62; Working with Lead-based Paint: Facts and Information Applicable to Air Force Facilities									A			B		
6.4 Asbestos awareness									A			B		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A		B		C	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	3 Skill Level		5 Skill Level		7 Skill Level	
									(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
7 Publications TR: AFI 33-360 Vol 1														
7.1 Military									A			B		
7.2 Commercial									A			B		
7.3 Engineering Technical Letters (ETL)												A		B
8. AFOSH training/standards for AFS; AFI 91-301; AFOSHSTD 91-10														
8.1. Utilize Material Safety Data Sheet (MSDS) TR: NAVEDTRA 14045 Builder Advance									b					
8.2. Initial Federal Hazard Communication Training Program (FHCTP) TR: DoD 6050.5-G-1; AFI 91-302									B					
9. AFS SPECIFIC PUBLICATIONS TR: TO's 00-5-1, 00-5-2, 00-20-7; Technical Order Catalog (Online)														
9.1. AF indexes, manuals, regulations, technical orders, and forms									A					
9.2. Locate desired information in														
9.2.1. Standard publications														
9.2.2. Technical orders												a		
9.2.3. National Electrical Code (NFPA 70)														
9.2.4. National Electrical Safety Code														
9.2.5. Utilize technical publications to perform maintenance, operations, and troubleshooting												b		
10. AFS Specific Safety NAVEDTRA 14256 Use and Care of Hand Tools and Measuring Tools; AFPDs 91-2, 91-3; AFOSHSTDs 91-5, 91-10, 91-17, 91-25, 91-46, 91-68; AFIs 32-1052, 91-202, 91-204, 91-301, 91-302; AFPAM 32-7043; NIOSH 78-193B; TOs 32-1-101, 32-1-151, 34W4-1-5, 34W4-1-8														
10.1. AF Occupational Safety and Health Program									B			B		
10.2. Hazard abatement									b			b		
10.3. Exercise safety precautions when:														
10.3.1. Operating power tools and equipment									2b			b		
10.3.2. Using hand tools									2b			b		
10.3.3. Working from heights									2b			b		
10.3.4. Lifting manually									2b			b		
10.3.5. Handling compressed gas containers		*							2b			b		
10.3.6. Handling corrosive materials associated with Structural AFS									2b			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
10.3.7. Perform Lockout/Tagout procedures		*							b			b		
11. PROJECT PLANNING														
11.1. Perform planning functions TR: AFI 32-1001, 32-1021; AFM 67-1(Vol. 2, Part 2); AFPAM 32-1125; NAVEDTRA 14040, Blueprint Reading & Sketching; NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Carpentry, Masonry, Metalworking, and Welding; Welding Skills; Carpentry, 3rd Edition; Sheet Metal by Meyer; Welding Technology, 2nd Ed														
11.1.1. Use estimating standards												b		
11.1.2. Special precautionary measures such as: AF Forms 103 and 592												b		
11.1.3. Sketch working drawings									1a			b		
11.2. Use construction drawings for: TR: NAVEDTRA 14040, Blueprint Reading & Sketching; NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Carpentry, Masonry and Metalworking, Welding; Welding Skills; Sheet Metal by Meyer; Carpentry, 3rd Edition; Welding Technology, 2nd Ed														
11.2.1. Carpentry			**						2b			b		
11.2.2. Masonry			**						2b			b		
11.2.3. Metal			**						2b			b		
11.2.4. Roofing systems TR: AFI 32-1051; TM 5-617 (AFM 91-31); Roofing Construction & Estimating by Atcheson														
11.3. Identify type of material required for: TR: NAVEDTRA 14040, Blueprint Reading & Sketching; NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Carpentry, Masonry, Metalworking, and Welding; Welding Skills; Sheet Metal by Meyer; Carpentry, 3rd Edition; Welding Technology, 2nd Ed														
11.3.1. Carpentry			**						a			b		
11.3.2. Masonry			**						a			b		
11.3.3. Metal			**						a			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
11.3.4. Roofing systems TR: AFI 32-1051; TM 5-617 (AFM 91-31); Roofing Construction & Estimating by Atcheson									a			b		
11.4. Establish quantity of material required for: TR: NAVEDTRA 14040, Blueprint Reading & Sketching; NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Carpentry, Masonry, Metalworking, and Welding; Welding Skills; Sheet Metal by Meyer; Carpentry, 3rd Edition; Welding Technology, 2nd Ed														
11.4.1. Carpentry			**						2b			b		
11.4.2. Masonry			**						2b			b		
11.4.3. Metal			**						2b			b		
11.4.4. Roofing systems TR: AFI 32-1051; TM 5-617 (AFM 91-31); Roofing Construction & Estimating by Atcheson									a			b		
12. Tools and Equipment:TR: T.O.s 32-1-101, 32-1-151; NAVEDTRA 14043,14044, Builders 3&2 Vol 1&2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steeelworker Vol 1&2; NAVEDTRA 14256, Tools and Their Uses; Modern Carpentry, Masonry, Metalworking, and Welding; Welding Skills; Sheet Metal by Meyer; Carpentry, 3rd Edition; Welding Technology, 2nd Ed.														
12.1. Use														
12.1.1. Handtools									2b			b		
12.1.2. Portable power tools									2b			b		
12.1.3. Shop installed equipment									2b			b		
12.1.4. Laser level												b		
12.1.5. Powder actuated tools TR: Manufacturer's Instructions									2b			b		
12.1.6 Scaffolds and ladders												b		
12.1.7. Mobile work platforms												b		
12.2. Maintain														
12.2.1. Handtools									2b			b		
12.2.2. Portable power tools									2b			b		
12.2.3. Shop installed equipment									2b			b		
12.2.4. Laser level														
12.2.5. Powder actuated tools									a			b		
12.2.6 Scaffolds and ladders												b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
12.2.7 Mobile work platforms												b		
13. CONCRETE STRUCTURES TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045 , Builder Advanced; NAVEDTRA 14251 Steelworker Vol. 2; Modern Carpentry and Masonry; Carpentry, 3rd Edition; Masonry & Concrete by Beall														
13.1. Prepare subgrade									a			b		
13.2. Concrete reinforcement														
13.2.1. Install reinforcing steel									b			b		
13.2.2. Install wire mesh									1a			b		
13.3. Construct, install and remove forms														
13.3.1. Footings									a			b		
13.3.2. Piers									a			b		
13.3.3. Columns									a			b		
13.3.4. Slabs									2b			b		
13.3.5. Steps									a			b		
13.3.6. Ramps									a			b		
13.3.7. Walls									a			b		
13.3.8. Earth									a			b		
13.4. Construct batter boards									2b			b		
13.5. Install expansion and contraction joints									b			b		
13.6. Concrete														
13.6.1. Mix ingredients to meet project specifications									2b			b		
13.6.2. Use admixtures									a			b		
13.7. Place concrete in forms									2b			b		
13.8. Consolidate concrete									2b			b		
13.9. Install anchor bolts									b			b		
13.10. Finish concrete									2b			b		
13.11. Cure concrete									b			b		
13.12. Inspect concrete for defects									a			b		
13.13. Repair concrete									a			b		
14. STRUCTURAL LAYOUT/ FRAMING COMPONENTS TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; ModernCarpentry and Masonry; Carpentry, 3rd Edition; Commercial Metal Stud Framing by Clark														
14.1. Layout , construct and repair														
14.1.1. Floors		*							2b			b		
14.1.2. Stair members									1a			b		
14.1.3. Walls														
14.1.3.1. Wooden Studs		*							2b			b		
14.1.3.2. Metal Studs									1a			b		
14.1.4. Ceilings									1a			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A		B		C	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	3 Skill Level (1) Course	(2) ADL	5 Skill Level (1) Course	(2) CDC	7 Skill Level (1) Course	(2) ADL
14.1.5. Roofs		*							1a			b		
14.1.6. Trusses									a			b		
15. EXTERIOR CONSTRUCTION AND FINISHING TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Carpentry; Carpentry, 3rd Edition; Finish Carpentry by Spence														
15.1. Install														
15.1.1. Metal siding									a			b		
15.1.2. Wood siding									a			b		
15.2. Repair														
15.2.1. Metal siding									a			b		
15.2.2. Wood siding									a			b		
15.3. Install vents									a			b		
15.4. Install louvers									a			b		
15.5. Install exterior trim									1a			b		
15.6. Construct wooden fences TR: Wooden Fences by Nash									a			b		
15.7. Replace screen fabric												b		
15.8. Replace glass												b		
15.9. Cut glass												b		
15.10. Cut acrylic sheets												b		
16. MASONRY CONSTRUCTION AND MAINTENANCE TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; Modern Carpentry and Masonry; Carpentry, 3rd Edition; Building with Masonry by Kreh														
16.1. Determine and mix type of mortar required		*							2b			b		
16.2. Lay masonry units														
16.2.1. Brick												b		
16.2.2. Block		*							1a			b		
16.2.3. Structural tile												b		
16.3. Install reinforcement														
16.3.1. Prefabricated wire joint reinforcement									a			b		
16.3.2. Structural reinforcing bars									a			b		
16.3.3. Anchor bolts									a			b		
16.4. Construct control joints									a			b		
16.5. Construct window and door openings														
16.5.1. Brick												b		
16.5.2. Block									a			b		
16.5.3. Structural tile														

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
16.6. Repair masonry units									a			b		
16.7 PLASTER/STUCCO TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; Modern Masonry; Carpentry, 3rd Edition; Portland Cement Plaster (Stucco) Manual by Portland Cement Assoc. 1996														
16.7.1. Apply														
16.7.1.1. Plaster												a		
16.7.1.2. Stucco												a		
16.7.2.. Patch														
16.7.2.1. Plaster												a		
16.7.2.2. Stucco												a		
17. ROOFING SYSTEMS TR: TMs 5-617 (AFM 91-31), 5-805-14; NAVEDTRA 14043, 14044, Builders 3 &2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Carpentry and Metalworking; Carpentry, 3rd Edition; Roofing Construction & Estimating by Atcheson; Maintenance of Membrane Roofing Systems by RIEI; Sheet Metal by Meyer; Welding Technology, 2nd Ed														
17.1. Install low-slope roof systems														
17.1.1. Built-up roof									a			b		
17.1.2. Modified bitumen												b		
17.1.3. Thermosets												b		
17.1.4. Thermoplastic												b		
17.1.5. Metal									a			b		
17.1.6. Composition roll roofing									a			b		
17.2. Repair low-slope roof systems														
17.2.1. Built-up roof									a			b		
17.2.2. Modified bitumen												b		
17.2.3. Thermosets												b		
17.2.4. Thermoplastic												b		
17.2.5. Metal									a			b		
17.2..6. Composition roll roofing									a			b		
17.3. Install steep-slope roof systems:														
17.3.1. Tile														
17.3.2. Composition shingles									2b			b		
17.3.3. Metal									a			b		
17.4. Repair steep-slope roof systems:														
17.4.1. Tile												b		
17.4.2. Composition shingles									a			b		
17.4.3. Metal									a			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
17.5. Inspect roof systems: TR AFI 32-1051														
17.5.1. Low-slope												b		
17.5.2. Steep-slope														
17.6. Gutter systems														
17.6.1. Fabricate														
17.6.2. Install									a			b		
17.6.3. Repair									a			b		
17.7. Flashing														
17.7.1. Fabricate									1a					
17.7.2. Install									1a			b		
17.7.3. Repair												b		
18. FINISH CARPENTRY TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; Modern Carpentry; Carpentry, 3rd Edition; Finish Carpentry by Spence; Drywall by Ferguson														
18.1. Install wall paneling									a			b		
18.2. Gypsum board														
18.2.1. Install		*							2b			b		
18.2.2. Tape and finish									2b			b		
18.2.3. Patch		*							2b			b		
18.3. Install floor coverings														
18.3.1. Asphalt/Vinyl									2b			b		
18.3.2. Wood														
18.4. Repair floor coverings														
18.4.1. Asphalt/Vinyl									b			b		
18.4.2. Wood														
18.5. Install ceiling systems														
18.5.1. Acoustical														
18.5.2. Suspended ceiling									2b			b		
18.6. Repair / Replace ceiling systems														
18.6.1. Acoustical														
18.6.2. Suspended ceiling									b			b		
18.7. Interior trim														
18.7.1. Install									1a			b		
18.7.2. Repair									a					
19. MASONRY WALL/FLOOR TILE INSTALLATION AND MAINTENANCE TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; Modern Masonry; Carpentry, 3rd Edition														
19.1. Prepare surface to receive adhesive									1a			b		
19.2. Lay out areas to receive tile									1a			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
19.3. Apply adhesive method									1a			b		
19.4. Apply thin set method									a			b		
19.5. Set tile									1a			b		
19.6. Cut tile									1a			b		
19.7. Install fixtures									a			b		
19.8. Apply grout									1a			b		
19.9. Replace tile									a			b		
20. APPLY PROTECTIVE COATINGS TR: NAVEDTRA 12520, 12521, Builders 3 and 2, Vol. 1 & 2; Modern Carpentry, Masonry, Metalworking and Welding Skills; Carpentry, 3rd Edition									a			b		
21. PERSONNEL DOOR AND WINDOW MAINTENANCE TR: TM 5-805-8; NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; Modern Carpentry, Masonry, Metalworking and Welding; Carpentry, 3rd Edition														
21.1. Install personnel door units														
21.1.1. Wood		*							1a			b		
21.1.2. Metal		*							1a			b		
21.1.3. Glass														
21.2. Repair personnel door units														
21.2.1. Wood									a			b		
21.2.2. Metal									a			b		
21.2.3. Glass														
21.3. Install window units									1a			b		
21.4. Repair window units									a			b		
21.5. Personnel door hardware														
21.5.1. Install door closures		*							b			b		
21.5.2. Adjust door closures									b			b		
21.5.3. Install locking devices														
21.5.3.1. Cylinder locks		*							2b			b		
21.5.3.2. Mortise locks												b		
21.5.3.3. Cipher locks												b		
21.5.3.4. Panic hardware/exit device		*							b			b		
22. LOCKSMITHING TR: The Complete Book of Locks and Locksmithing by Phillips; Carpentry 3rd Edition														
22.1. Implement master key system														
22.2. Cut keys												b		
22.3. Maintain locking devices														
22.3.1. Cylinder locks									a			b		
22.3.2. Mortise locks												b		
22.3.3. Cipher locks												b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
22.3.4. Panic hardware									a			b		
23.3.5. GSA Container														
22.3.6. Safes														
22.3.7. Vaults														
23. WOODWORKING TR: NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; NAVEDTRA 14045, Builder Advanced; Carpentry, 3rd Edition; Furniture & Cabinet Construction by Rae														
23.1. Install countertops												b		
23.2. Install cabinet hardware												b		
23.3. Apply laminated plastics												b		
23.4. Install cabinets												b		
24. ENERGY CONSERVING MATERIAL TR: TM 5-805-6; NAVEDTRA 14043, 14044, Builders 3 & 2, Vol. 1 & 2; Modern Masonry; Carpentry, 3rd Edition; Energy Efficient Building by Fine Home Building Editors														
24.1. Install thermal insulation									a			b		
24.2 Apply Caulking compound									a			b		
24.3. Install weather-stripping									a			b		
25. METAL/FIBERGLASS COMPONENTS TR: NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Metalworking; Sheet Metal by Meyer, T.O.s 34W4-1-5; AFOSHSTD 91-5; Modern Welding by Bowditch														
25.1. Lay out metal components using:														
25.1.1. Parallel line development		*							2b			b		
25.1.2. Radial line development									2b			b		
25.1.3. Triangulation development									2b			b		
25.2. Fabricate Metal Components														
25.2.1. Rectangular									2b			b		
25.2.2. Round									2b			b		
25.3. Assemble and install metal components using appropriate fasteners														
25.4. Resistance welding (spot welding)														
25.4.1 Principles of resistance welding									B			B		
25.4.2. Select resistance welding equipment									1a			b		
25.4.3. Adjust the resistance welder									1a			b		
25.4.4 Weld joints using the resistance welder									1a			b		
25.4.5. Maintain resistance welding equipment									1a			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
25.5. Install duct systems														
25.5.1. Sheetmetal ducts		*							1a			b		
25.5.2. Flex Duct									a			b		
25.5.3. Stacks									a			b		
25.5.4. Ventilators									a			b		
25.6 Install fixed utility equipment														
25.6.1. Table tops														
25.6.2. Counter tops														
25.6.3. Overhead canopies														
25.6.4. Hoods												a		
25.6.5. Doors														
25.7. Repair fiberglass ductboard												a		
26. VEHICLE AND EQUIPMENT FACILITY DOORS AND GATES TR: Manufacturer's Instructions														
26.1. Inspect roll-up/overhead metal doors			**						b			b		
26.2. Install														
26.2.1. Overhead doors									b			b		
26.2.2. Roll-up doors									b			b		
26.2.3. Door operators									b			b		
26.2.4. Manual Gates														
26.2.5. Mechanical Gates														
26.3. Maintain														
26.3.1. Overhead doors		*							2b			b		
26.3.2. Roll-up doors		*							2b			b		
26.3.3. Door operators									b			b		
26.3.4. Manual Gates														
26.3.5. Mechanical Gates														
27. SOFT SOLDERING TR: T.O.s 34W4-1-5, 34W4-1-8; AFOSHSTD 91-5; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Welding Skills; Modern Welding by Bowditch; Welding Technology, 2nd Ed														
27.1. Principles of soldering												B		
27.2. Prepare metal for soldering												a		
27.3. Soldering techniques												a		
28. OXYACETYLENE APPLICATIONS TR: T.O.s 34W4-1-5, 34W4-1-8; AFOSHSTD 91-5; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Welding by Bowditch; Oxyfuel Gas Welding by Bowditch; Welding Skills; Welding Technology, 2nd Ed														
28.1. Principles of oxyacetylene welding									B			B		
28.2. Select oxyacetylene welding equipment and tools									2b			b		
28.3. Perform shop tests to identify metals												b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
28.4. Assemble and test oxyacetylene equipment for gas leaks		*							2b			b		
28.5. Select the tip and filler rod for a specific job									2b			b		
28.6. Adjust pressure regulators									2b			b		
28.7. Light oxyacetylene torch and adjust flame									2b			b		
28.8. Prepare joints for welding									2b			b		
28.9. Use oxyacetylene welding equipment to weld carbon steel									2b			b		
28.10. Use oxyacetylene equipment to cut metal		*							2b			b		
28.11. Use oxyacetylene welding equipment to form metal components												b		
28.12. Maintain oxyacetylene welding equipment									2b			b		
28.13. Principles of Silver brazing									B			B		
28.14. Principles of Braze welding									B			B		
29. SHIELDED METAL ARC WELDING TR: T.O.s 34W4-1-5; AFOSHSTD 91-5; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Welding by Bowditch; Shielded Metal Arc Welding by Hobart; Welding Skills; Welding Technology, 2nd Ed														
29.1. Principles of shielded metal arc welding									B			B		
29.2. Select arc welding equipment for specific tasks									2b			b		
29.3. Select the electrodes for specific welding jobs									2b			b		
29.4. Set up welding machine for a specific welding job		*							2b			b		
29.5. Prepare joints for welding		*							2b			b		
29.6. Use shielded metal arc welding equipment to weld carbon steel														
29.6.1. Butt joint positions														
29.6.1.1. Flat		*							2b			b		
29.6.1.2. Horizontal									b			b		
29.6.1.3. Vertical									b			b		
29.6.1.4. Overhead									b			b		
29.6.2. Lap joint positions														
29.6.2.1. Flat									b			b		
29.6.2.2. Horizontal		*							2b			b		
29.6.2.3. Vertical									b			b		
29.6.2.4. Overhead									b			b		
29.6.3. Tee joint positions														
29.6.3.1. Flat									b			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
29.6.3.2. Horizontal									b			b		
29.6.3.3. Vertical		*							2b			b		
29.6.3.4. Overhead									b			b		
29.6.4. Edge joint positions														
29.6.4.1. Flat												b		
29.6.4.2. Horizontal												b		
29.6.4.3. Vertical												b		
29.6.4.4. Overhead												b		
29.7. Perform arc cutting									a			b		
29.8. Perform arc gouging														
29.9. Maintain shielded metal arc welding equipment									2b			b		
29.10. Perform hard-surfacing welding TR: T.O. 34W4-1-5; Welding Skills; Army SC4940-95-B14; Modern Welding; Welding Technology, 2nd Ed									a			b		
30. TUNGSTEN INERT GAS WELDING (TIG) TR: T.O.s 34W4-1-5; AFOSHSTD 91-5; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Welding by Bowditch; Gas Tungsten Arc Welding by Hobart; Welding Skills; Welding Technology, 2nd Ed														
30.1. Principles and purpose of tungsten inert gas welding									B			B		
30.2. Select tungsten inert gas welding equipment for specific jobs									b			b		
30.3. Set up welding machine for specific job									b			b		
30.4. Use tungsten inert gas welding equipment to weld carbon steel														
30.4.1. Butt joint positions														
30.4.1.1. Flat									b			b		
30.4.1.2. Horizontal									b			b		
30.4.1.3. Vertical									b			b		
30.4.1.4. Overhead												b		
30.4.2. Lap joint positions														
30.4.2.1. Flat									b			b		
30.4.2.2. Horizontal									b			b		
30.4.2.3. Vertical									b			b		
30.4.2.4. Overhead												b		
30.4.3. Tee joint positions														
30.4.3.1. Flat									b			b		
30.4.3.2. Horizontal									b			b		
30.4.3.3. Vertical									b			b		
30.4.3.4. Overhead												b		
30.4.4. Edge joint positions														
30.4.4.1. Flat												b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
30.4.4.2. Horizontal												b		
30.4.4.3. Vertical												b		
30.4.4.4. Overhead												b		
30.5 Use tungsten inert gas welding equipment to weld corrosion resistant alloy									b			b		
30.6 Use tungsten inert gas welding equipment to weld non-ferrous alloy									b			b		
30.7. Maintain tungsten inert gas equipment									b			b		
31. METALLIC INERT GAS WELDING (MIG) TR: T.O.s 34W4-1-5; AFOSHSTD 91-5; NAVEDTRA 14250, 14251, Steelworker Vol. 1 & 2; Modern Welding by Bowditch; Gas Metal Arc Welding by Hobart; Welding Skills; Welding Technology, 2nd Ed														
31.1. Principles and purpose of metallic inert gas welding									B			B		
31.2. Select metallic inert gas welding equipment for specific jobs									2b			b		
31.3. Set up welding machine for specific job		*							2b			b		
31.4. Use metallic inert gas welding equipment to weld carbon steel														
31.4.1. Butt joint positions														
31.4.1.1. Flat									b			b		
31.4.1.2. Horizontal		*							2b			b		
31.4.1.3. Vertical									b			b		
31.4.1.4. Overhead									b			b		
31.4.2. Lap joint positions														
31.4.2.1. Flat									b			b		
31.4.2.2. Horizontal									b			b		
31.4.2.3. Vertical		*							2b			b		
31.4.2.4. Overhead									b			b		
31.4.3. Tee joint positions														
31.4.3.1. Flat		*							2b			b		
31.4.3.2. Horizontal									b			b		
31.4.3.3. Vertical									b			b		
31.4.3.4. Overhead									b			b		
31.4.4. Edge joint positions														
31.4.4.1. Flat												b		
31.4.4.2. Horizontal												b		
31.4.4.3. Vertical												b		
31.4.4.4. Overhead												b		
31.5. Use metallic inert gas welding equipment to weld corrosion resistant alloy									b			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
31.6. Use metallic inert gas welding equipment to weld non-ferrous alloy									b			b		
31.7. Maintain metallic inert gas equipment									2b			b		
32. PLASMA ARC SYSTEMS TR: AFOSHSTD 91-5; Modern Welding by Bowditch; Welding Technology, 2nd Ed														
32.1. Principles of									B			B		
32.2. Set up		*										b		
32.3. Perform cutting		*										b		
32.4. Maintain												b		
33. AFSC SPECIFIC CONTINGENCY RESPONSIBILITIES TR: AFIs 10-210; 10- 211; 32-1026; T.O.s 35E5-6-1, 35E4-132-1, 35E4-94-1; Army TMs 10-8340-207-14, 10-450-200-12; WMP-1, Annex S; (Mar 95); AFPAM 10-219, Vol 1, 2, 3, 4, & 5; CCB Online														
33.1. Expedient Repair and Destruction TR: AFPAM 10-219, Vol 2, 3, 4 & 5; AFI 32-1051; Home Station Training (HST) Category 1 & 2														
33.1.1. Facility repairs														
33.1.1.1. Types & extent of wartime facility damage									A			B		
33.1.1.2. Damage assessment / reporting									A			B		
33.1.1.3. Repair prioritization/ philosophy									A			B		
33.1.1.4. Quick fix techniques														
33.1.1.4.1. Roof repairs									a			b		
33.1.1.4.2. Exterior walls									a			b		
33.1.2. Structural shoring/bracing concepts TR: Handbook of Temporary Structures in Construction									A			B		
33.1.3. Buttressing/Hardening TR: Handbook of Temporary Structures in Construction														
33.1.3.1. Earthen									A			B		
33.1.3.2. Wooden									A			B		
33.1.4. Repair hardened aircraft shelter doors TR: USAFE Instruction 32-1004														
33.1.4.1. Door adjustment									a			b		
33.1.4.2. Roller replacement									a			b		

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
33.2. Airfield Paint TR: AFPAM 10-219, Vol 4; TO 35E2-6-1; AFIs 32-1042, 32-1044, 13-217; AFMAN 32-1076; Modern Welding; Welding Technology, 2nd Ed														
33.2.1 Characteristics of paint used for pavement surfaces									A			B		
33.2.2 Conduct striping procedures														
33.2.2.1. Runways		♦							1a			b		
33.2.2.2 Taxiways									a			b		
33.2.2.3. Parking Aprons									a			b		
33.2.3 Minimum Airfield Operating Strip (MAOS) marking system									a			b		
33.3. Maintain Basic Expeditionary Airfield Resource (BEAR) Base Tactical shelters TR: T.O.s 00-5-1, 35E4 series, 35E5 series														
33.3.1. Construct Hardback Tent TR: AFPAM 10-219, Vol 5; AFH 10-222, Vol 1; TO 35E5-6-1		♦							a			b		
33.3.2. General Purpose (GP) small tent TR: TO 35E5-1-101														
33.3.3. GP medium tent TR: TO 35E5-1-101									B			b		
33.3.4. GP large tent TR: TO 35E5-1-101														
33.3.5 Dome Shelter														
33.3.5.1. Set Up														
33.3.5.2. Maintain			♦♦											
33.3.6. Aircraft Maintenance Hangar (ACH) TR: T.O. 35E4-133-1														
33.3.6.1. Set Up														
33.3.6.2. Maintain			♦♦											
33.3.7. Frame Supported Tension Fabric Shelter (FSTFS) TR: T.O. 35E4-183-1														
33.3.7.1. Set Up														
33.3.7.2. Maintain			♦♦											
33.3.8. TEMPER Tent TR: AFPAM 10-219, Vol 2, 5; AFH 10-222, Vols 1 & 6; T.O.s 35E5-6-1														
33.3.8.1. Set Up		♦							2b			b		
33.3.8.2. Maintain		♦							b			b		
33.3.8.3. Disassemble/Store		♦							2b			b		
33.3.9. Small Shelter System (SSS) TR: T.O. 35E5-6-11														

1. Tasks, Knowledge And Technical References	2. Core Tasks			3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
	A	B	C	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	3 Level	5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) ADL	(1) Course	(2) CDC	(1) Course	(2) ADL
33.3.9.1. Set Up		♦							2b			b		
33.3.9.2. Maintain		♦							b			b		
33.3.9.3. Disassemble/Store		♦							2b			b		
33.3.10. Medium Shelter System (MSS) TR: T.O.s 35E5-6-21, 35E5-1-101														
33.3.10.1. Set Up		♦							a			b		
33.3.10.2. Maintain		♦							a			b		
33.3.10.3. Disassemble/Store		♦							a			b		
33.3.11. General Purpose Shelter TR: AFH 10-222 Vol 6 and TO 35-E4-132-1									A					
33.3.12. Expandable Shelter Container (ESC) TR: TO 35E4-94-1									A					
33.4. Field Latrines TR: FM 21-10; TO 35E35-5-1									B			b		
33.5. Assemble Revetment TR: AFPAM 10-219, Vol 2; AFMAN 32-1071; AFIs 31-101, 31-209, 31-210, 10-401, 31-301; TO 35E4-170-2; AFH 10-222 Vol. 14														
33.5.1. B-1		♦							a			b		
33.5.2. Expandable Bin Type												b		
33.6. Airfield Damage Repair (ADR) TR: AFPAM 10-219, Vol 4; AFI 10-210; T.O.s 35E2-3-1, 35E2-2-7, 35E2-4-1, and UFC 3-270-07														
33.6.1. ADR Philosophy												A		
33.6.2. Repair Procedures												a		
33.6.3. Crater Repair/Repair Quality Criteria												a		
33.6.4. AM-2 Matting									B			b		
33.6.5. Fiberglass Mat														
33.6.5.1. Assembly									b			b		
33.6.5.2. Anchor									b			b		
33.6.5.3. Reanchor									b			b		
33.6.6 Spall Repair												b		

AFQTP Documentation Record
For AFSC 3E3X1

- Download AFQTPs at https://wwwmil.afcesa.af.mil/Directorate/CEO/Training/QTPs/ceof_3e3x1.htm
- Trainers/Certifiers enter their name and initials in the identification block at beginning of the STS
- Upon administering AFQTPs, enter start date in column 4 of this record
- Upon completion of each unit, document columns 5, 6, and 7
- Upon completion of applicable CerTests, trainer will place the completion date in column 5
- Transcribe by entering current date in columns 5. Trainees & Trainers Initials in columns 6 & 7

1	2	3	4	5	6	7
TASK NUMBER	**TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES**	**◆SEE NOTE 1 * * * 7 LEVEL * 5 LEVEL**	**START DATE**	**COMPLETE DATE**	**TRAINEE'S INITIALS**	**TRAINER'S INITIALS**
10.	**AFS SPECIFIC SAFETY** **Ref: AFQTP Module 10 – AFS SPECIFIC SAFETY**					
10.3.5	Handling compressed gas containers	*				
10.3.7	Perform Lockout/Tagout procedures	*				
11.	**PROJECT PLANNING** **Ref: AFQTP Module 11 – PROJECT PLANNING**					
11.2.1.	Use Construction drawings for: Carpentry	**				
11.2.2.	Use Construction drawings for: Masonry	**				
11.2.3.	Use Construction drawings for: Metal	**				
11.3.1.	Identify type of material required for: Carpentry	**				
11.3.2.	Identify type of material required for: Masonry	**				
11.3.3.	Identify type of material required for: Metal	**				
11.4.1.	Establish quantity of material required for: Carpentry	**				

1	2	3	4	5	6	7
TASK NUMBER	**TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES**	**◆SEE NOTE 1 * * 7 LEVEL * 5 LEVEL**	**START DATE**	**COMPLETE DATE**	**TRAINEE'S INITIALS**	**TRAINER'S INITIALS**
11.4.2.	Establish quantity of material required for: Masonry	**				
11.4.3.	Establish quantity of material required for: Metal	**				
14.	**STRUCTURAL LAYOUT/ FRAMING COMPONENTS** **Ref: AFQTP MODULE 14 – STRUCTURAL LAYOUT/FRAMING COMPONENTS**					
14.1.1.	Layout, construct, and repair: Floors	*				
14.1.3.1.	Layout, construct, and repair: Walls (Wooden Studs)	*				
14.1.5.	Layout, construct, and repair: Roofs	*				
16.	**MASONRY CONSTRUCTION AND MAINTENANCE** **Ref: AFQTP Module 16 – MASONRY CONSTRUCTION AND MAINTENANCE**					
16.1	Determine and mix type of mortar required	*				
16.2.2.	Lay masonry units: Block	*				
18.	**FINISH CARPENTRY** **Ref: AFQTP Module 18 – FINISH CARPENTRY**					
18.2.1.	Gypsum board: Install	*				
18.2.3.	Gypsum board: Patch	*				
21.	**PERSONNEL DOOR AND WINDOW MAINTENANCE** **Ref: AFQTP Module 21 - PERSONNEL DOOR AND WINDOW MAINTENANCE**					
21.1.1.	Install personnel door units: Wood	*				
21.1.2.	Install personnel door units: Metal	*				

1	2	3	4	5	6	7
TASK NUMBER	**TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES**	**◆SEE NOTE 1 * * 7 LEVEL * 5 LEVEL**	**START DATE**	**COMPLETE DATE**	**TRAINEE'S INITIALS**	**TRAINER'S INITIALS**
21.5.1.	Personnel door hardware: Install door closures	*				
21.5.3.1.	Install locking devices: Cylinder locks	*				
21.5.3.4.	Install locking devices: Panic hardware/exit device	*				
25.	**METAL/FIBERGLASS COMPONENTS** **Ref: AFQTP Module 25 – FABRICATE AND INSTALL METAL/FIBERGLASS COMPONENTS**					
25.1.1.	Lay out metal components using: Parallel line development	*				
25.5.1.	Install duct systems: Sheetmetal ducts	*				
26.	**VEHICLE AND EQUIPMENT FACILITY DOORS** **Ref: AFQTP Module 26 – VEHICLE AND EQUIPMENT FACILITY DOORS**					
26.1	Inspect roll-up/overhead metal doors	**				
26.3.1	Maintain: Overhead doors	*				
26.3.2	Maintain: Roll-up doors	*				
28.	**OXYACETYLENE WELDING** **Ref: AFQTP Module 28 – OXYACETYLENE WELDING**					
28.4.	Assemble and test oxyacetylene equipment for gas leaks	*				
28.10.	Use oxyacetylene equipment to cut metal	*				
29.	**SHIELDED METAL ARC WELDING** **Ref: AFQTP Module 29 - SHIELDED METAL ARC WELDING**					
29.4.	Set up welding machine for a specific welding job	*				

1	2	3	4	5	6	7
TASK NUMBER	**TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES**	**◆SEE NOTE 1 * * 7 LEVEL * 5 LEVEL**	**START DATE**	**COMPLETE DATE**	**TRAINEE'S INITIALS**	**TRAINER'S INITIALS**
29.5.	Prepare joints for welding	*				
29.6.1.1.	Butt joint positions: Flat	*				
29.6.2.2.	Lap joint positions: Horizontal	*				
29.6.3.3.	Tee joint positions: Vertical	*				
31.	**METALLIC INERT GAS WELDING (MIG)** **Ref: AFQTP Module 31 - METALLIC INERT GAS WELDING (MIG)**					
31.3	Set up welding machine for specific job	*				
31.4.1.2	Use metallic inert gas welding equipment to weld carbon steel Butt joint positions: Horizontal	*				
31.4.2.3	Use metallic inert gas welding equipment to weld carbon steel Lap joint positions: Vertical	*				
31.4.3.1	Use metallic inert gas welding equipment to weld carbon steel Tee joint positions: Flat	*				
32.	**PLASMA ARC SYSTEMS** **Ref: AFQTP Module 32 - PLASMA ARC SYSTEMS**					
32.2	Set up	*				
32.3	Perform cutting	*				

NOTE 1: ♦ Diamond tasks are extremely important to the career field. Diamond tasks are the same as core tasks with one exception--equipment shortfalls at most locations have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP and passing the corresponding CerTest is all that is required for upgrade and qualification training. Hands-on certification should be accomplished at the first opportunity when equipment is available. In locations where the equipment is available for hands-on certification, CerTest completion is still a mandatory requirement.
NOTE 2: AFCESA is in the process of transferring all courses on CD-Rom to the new AFCESA Virtual Learning Center. Once completed the CerTest for the applicable diamond task will be available online.
https://afcesa.csd.disa.mil/kc/login/login.asp?kc_ident=kc0005

1	2	3	4	5	6	7	8
TASK NUMBER	**TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES**	**◆SEE NOTE 1 * * 7 LEVEL * 5 LEVEL**	**START DATE**	**COMPLETE DATE**	**TRAINEE'S INITIALS**	**TRAINER'S INITIALS**	**CerTest COMP DATE**
33.	**AFSC SPECIFIC CONTINGENCY RESPONSIBILITIES**						
33.2.2.1.	Conduct Striping Procedures: Available in AFCESA Virtual Learning Center	♦					
33.3.1.	Construct Hardback Tent CerTest # 8400	♦					
33.3.5.2	Dome Shelter: Maintain Available in AFCESA Virtual Learning Center	♦♦					
33.3.6.2	Aircraft Maintenance Hangar (ACH): Maintain Available in AFCESA Virtual Learning Center	♦♦					
33.3.7.2	Frame Supported Tension Fabric Shelter (FSTFS): Maintain Available in AFCESA Virtual Learning Center	♦♦					
33.3.8.1.	TEMPER Tent: Set Up CerTest # 8070	♦					
33.3.8.2.	TEMPER Tent: Maintain CerTest # 8071	♦					

1	2	3	4	5	6	7	8
TASK NUMBER	**TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES**	**◆SEE NOTE 1 * * 7 LEVEL * 5 LEVEL**	**START DATE**	**COMPLETE DATE**	**TRAINEE'S INITIALS**	**TRAINER'S INITIALS**	**CerTest COMP DATE**
33.3.8.3.	TEMPER Tent: Disassemble/Store CerTest # 8072 and 8073	♦					
33.3.9.1.	Small Shelter System (SSS): Set Up Available in AFCESA Virtual Learning Center	♦					
33.3.9.2.	Small Shelter System (SSS): Maintain Available in AFCESA Virtual Learning Center	♦					
33.3.9.3.	Small Shelter System (SSS): Disassemble/Store Available in AFCESA Virtual Learning Center	♦					
33.3.10.1.	Medium Shelter System (MSS): Set Up Available in AFCESA Virtual Learning Center	♦					
33.3.10.2.	Medium Shelter System (MSS): Maintain Available in AFCESA Virtual Learning Center	♦					
33.3.10.3.	Medium Shelter System (MSS): Disassemble/Store Available in AFCESA Virtual Learning Center	♦					
33.5.1.	Assemble Revetment: B-1 CerTest # 8171	♦					

SECTION B - COURSE OBJECTIVE LIST (COL)

(This section used when developing lesson plans)

4. Measurement. Measurement of each objective is indicated as follows:

4.1. Written Test (W) - used to sample each knowledge objective and the knowledge components of performance objectives.

4.2. Performance Test (P) - used under specified conditions in a formal testing mode to measure student accomplishment of performance objectives after the teaching-learning activity has been completed.

4.3. Progress Checks (PC) - administered by the instructor during classroom or laboratory instruction time to assess the student's accomplishment of knowledge or performance objectives.

5. Standard. The standard is 70% on written examinations. Standards for performance measurement are indicated in the objectives and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check, and students may be required to repeat all or parts of the behavior until satisfactory performance is attained.

6. Proficiency Level. Most task performance is taught to the "2b" proficiency level which means the student can do most parts of the task, but does need assistance on the hardest parts of the task (partially proficient). The student can also determine step-by-step procedures for doing the task.

7. Course Objective List. These objectives are listed in the sequence taught by Block of Instruction.

7.1 Initial Skills Course. A detailed listing of the initial skills course objectives may be obtained by written request to 366 TRS/DO, 727 Missile Road, Sheppard AFB TX 76311-2254.

SECTION C - SUPPORT MATERIALS

8. CerTest.

8.1. CerTest is a program that uses computer-based evaluation to ensure skilled craftsmen are available to meet the Air Force's changing needs. It enhances upgrade and qualification training by testing and evaluating an individual's knowledge of the principles and procedures in each specialty.

8.1.1. The program contains tests used evaluate task knowledge received through different media such as paper products (text), videotapes, and computer–based programs.

8.1.2. The CerTest program contains ***mandatory*** tests, required for upgrade. All ***diamond*** (♦) coded tasks on the STS have a corresponding ***mandatory*** test.

8.1.3. CerTest is also a powerful training management tool. It can be used to find the strengths and weaknesses in an individual's training and experience. CerTest automatically records and updates all test results. The training manager can copy records to a disk so that an individual can bring current, accurate training information to a new unit; thereby helping the gaining supervisor evaluate the trainee's knowledge and experience.

8.2. CerTest also enables unit personnel to develop site-specific tests. These custom-made tests standardize testing on tasks unique to a specific duty station and/or assignment. The program contains a graphics library that may be used along with a menu-driven test editor to develop these site-specific tests.

8.3. CerTest also contains ***optional*** CDC pre-evaluation tools. Volume review exercises are available for progress checks after each volume is completed. After all volumes are completed in a set, the trainee may take the course review exercise before taking the final End of Course exam at the base training office. Commanders are encouraged to integrate these tools in their unit's OJT program.

8.4. CerTest has been adopted as the Air Force platform for future electronic CDC testing. The Air Force Institute for Distributive Learning (AFIADL) began using CerTest on 1 June 2000. Currently, all CE AFSs are allowed to use AFIADL's CerTest on installations where Base Test Control Facilities (TCFs) are equipped. See your UETM for further information.

8.5. The ***mandatory*** CerTests for each AFSC are identified, by number, with it's corresponding AFQTP on the 3E3X1 AFQTP Documentation Record.

8.6. For a complete list of up-to-date AFQTPs applicable to the 3E3X1 AFSC see our web page at**:**
https://wwwmil.afcesa.af.mil/Directorate/CEO/Training/QTPs/ceof_3e3x1.htm

SECTION D - TRAINING COURSE INDEX

9. Purpose. This section of the CFETP identifies training courses available for the specialty. Refer to the Education and Training Course Announcements (ETCA) web site, https://etca.randolph.af.mil/ for complete information on Air Force in-residence courses.

10. Air Force In-Residence/Mobile Training Team (MTT) Courses.

Course Number	Title	Developer
J9AQN3E331 00NA	Structural Apprentice Qualifying I	366 TRS
J9AQN3E331 01NA	Structural Apprentice Qualifying II	366 TRS
JCABP3E331 00AA	Structural Apprentice	366 TRS
JCAZP3E351 01AA	Roof Installation, Maintenance, Inspection And Repair	366 TRS
JCAZP3E351 02AA	Metals Layout, Fabrication and Welding Course	366 TRS
J7AZT3E351 00AA	Bare Base Structures Erection Course	366 TRS
JCAZP3E351 03AA	Structural Contingency Course	366 TRS

11. Air Force Institute for Advanced Distributed Learning (AFIADL) Courses.

Course Number	Title	Date
CDC 3E351A	Structural Journeyman	Jan 02
CDC 3E351B	Structural Journeyman	Jan 03
CDC 3E351C	Structural Journeyman	Jul 03

12. Exportable Courses/Information.

Course Number	Title	Date

13. Courses Under Development/Revision

Course Number	Course Title	Date Due
JCAZP3E351 02AA	Metals Layout, Fabrication and Welding Course	Jun 07
J7AZT3E351 00AA	Bare Base Structures Erection Course	Jun 06
JCAZP3E351 03AA	Structural Contingency Course	Jan 07

CDC 3E351A	Structural Journeyman	Apr 06
CDC 3E351 B	Structural Journeyman	Sep 06
CDC 3E351 C	Structural Journeyman	Apr 07

SECTION E – MAJCOM-UNIQUE REQUIREMENTS

14. "There are currently no MAJCOM unique requirements. This area is reserved."

SECTION F - HOME STATION TRAINING

15. Purpose. The purpose of this section is to identify the tasks, training references, and training sources available in support of contingency/wartime training. Prime BEEF forces will train to meet the full range of tasks expected in the contingency environment. Training ranges from knowledge-type training conducted in a classroom (CAT 1), to task-oriented hands-on (CAT II) training conducted in the field. These training requirements, frequencies, and sources are listed in AFI 10-210, Prime Base Emergency Engineer Force (BEEF) Program.

15.1. Home Station Training (HST). HST is training that is conducted at the individual's home station for contingency operations. The Civil Engineer Commander ensures training is provided and documented and arranges for subject matter experts to conduct training as required. Home Station training requirements fall into two categories, CAT I and CAT II.

15.1.1. Category I (CAT-I) Training. Personnel assigned to base level Civil Engineer units will receive initial and refresher training in all CAT I (knowledge-based) topics as shown in AFI 10-210, Chapter 4, Attachment 2. Units will use Readiness Training Packages (RTPs), Qualification Training Packages (QTPs), other multimedia training packages, videos, and AF CE standardized lesson plans to present the material. MAJCOMs may develop and require other training materials to accomplish knowledge-based training.

15.1.1.1. Prime BEEF Orientation/General Contingency. Upon assignment to the unit, all military and emergency-essential civilian employees will be trained on the unit's Prime BEEF and Emergency Management missions. The training will emphasize the individual's role and how he or she fits into the program. It will also include an overview of Civil Engineer Doctrine and explain the organization, training, equipment, operating concepts, and contingency missions pertaining to the unit.

15.1.1.2. General Contingency Responsibilities CD-ROM (GCRCD). Personnel may receive annual credit for the applicable CAT I training through completion of one of two available GCRCDs (one for 3-level civil engineers; the second for all other personnel). The 3-level product is a detailed version specifically designed for use as initial CAT I training. Use of this product has become critical in light of recent reductions in technical Prime BEEF training and education. All airmen should complete this course within 90 days upon arrival at their first duty station (6 months for ARC members). A second GCRCD product is available as an optional source for attaining recurring CAT I training for those task identified in AFI 10-210, Attachment 2. Duplication of both CDs is strongly encouraged. AFCESA is in the process of transferring all courses on CD-Rom to the new AFCESA Virtual Learning Center. **https://afcesa.csd.disa.mil/kc/login/login.asp?kc_ident=kc0005**

15.1.1.3. Certification Test (CERTEST). Personnel who pass a CERTEST computer-based exam in a CAT I contingency subject area can receive credit for that training requirement. Document training as outlined in AFI 10-210.

15.1.2. Category II (CAT-II) Training. CAT II training is primarily hands-on training as outlined in AFI 10-210, Chapter 4, Attachment 3. Units must make every effort to incorporate realism into their respective CAT II training programs. Field gear (to include primary weapons) will be used during training requirements such as, personal/work party security, convoy operations, defensive fighting positions, etc.

15.1.2.1. Combat Skills Training (CST). CST must be institutionalized as an integral part of any CAT II HST program. Lessons learned from operations such as IRAQI FREEDOM have taught us the importance of maintaining a higher level of combat readiness. Although the inclusion of combat skills-focused training into HST does not fully prepare CE personnel to work in a high threat combat environment, the steps taken to enhance CAT II training will help elevate units to a readiness level capable of supporting safe and effective operations in low to medium risk combat environments.

15.1.2.2. Mission Essential Equipment Training (MEETS). Wartime or contingency environments often involve the use of specialized and unique mission-essential equipment the Civil Engineers do not use in their day-to-day operations. Due to the cost and complexity, mission essential contingency equipment and trainer expertise are not commonly found at CONUS installations. Personnel must be hands-on certified and the certification documented in their CFEPT. AFI 10-210, Tables 4.1-4.6 identifies minimum personnel to be trained, positions by specialty, frequencies and locations of training sites. Inadequate training on these key equipment items can negatively impact Air Force contingency operations.

15.1.3. Category III (CAT III) Training. Team Training Venues

15.1.3.1. Silver Flag Exercise Sites (CAT III). Silver Flag Exercise Sites are located at Tyndall AFB, FL; Ramstein AB, Germany; and Kadena AB, Japan and conduct CAT III training with their major focus on students being able to perform critical contingency task in a team environment. The training focuses on bare base beddown and sustainment operations using hands-on training with BEAR equipment in a realistic beddown environment. Where possible, combat skills training has been added to the curriculum to ensure realism and help fortify combat skills mentality amongst teams. All CE personnel who fill Unit Type Code (UTC) positions will receive team training at Silver Flag Exercise Sites with the exception of members on headquarters staff augmentation UTCs, pavement evaluation UTCs, and generator repair and maintenance UTCs.

15.2. Training References.

15.2.1. AFI 10-210, Prime Base Engineer Emergency Force (BEEF) Program. Chapter four of AFI 10-210 identifies the Prime BEEF recurring training requirements. You can review this document by going to the Air Force publications web site. Attachment 2 is a list of HST CAT-I training requirements and Attachment 3 lists CAT-II training requirements.

15.2.2. Air Force Education and Training Course Announcements (ETCA). Superseded AFCAT 36-2223. It is located at the following URL: https://etca.randolph.af.mil lists additional training/educational opportunities available for civil engineer personnel. This catalog contains information on formal education and training courses. The catalog is updated quarterly.

15.2.3. Readiness Training Package (RTP). RTPs are lesson plans for HST lessons. The RTPs are intended for those personnel who teach any area of HST. The index and RTPs are located on the AFCESA/CEX web page. The URL for this information is https://wwwmil.afcesa.af.mil/Directorate/CEX/CEXX/ContingencyTrng/default.html

15.2.4. AFCESA/CEX. Maintains a comprehensive listing of audiovisual products that support the contingency training program. To view this listing as well as gain information on how to order specific audiovisual products, please consult the AFCESA Contingency Support page, see URL above.